



Annual Report

2022



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MESSAGE FROM STW™ LEADERSHIP

With immense gratitude and appreciation, we present our annual report for 2022, showcasing the incredible progress and achievements we have made in our mission to promote clean and safe water.

Through our tireless efforts in water research and public awareness campaigns, we have made significant strides in raising public consciousness on the dangers of water contamination and the detrimental health impacts it can cause. In 2022, we achieved several notable accomplishments that helped us make great strides toward our mission. One of our proudest moments was launching the virtual "Day in the Life of a Scientist™" program as a Summer e-camp for students. This initiative allowed us to engage with and inspire the next generation of scientists. We also collaborated with Big Blue & You to amplify our branding and connect with newer audiences, which has helped us expand our reach and impact.

Additionally, we launched new fundraising initiatives, including a "\$10 per month campaign", which will help us secure more funding to support our programs and initiatives. We also relaunched the Save the Water™ identity on Instagram, reaching a wider audience and raising awareness about the importance of our mission. Lastly, we reorganized our operations, enabling us to work more efficiently and effectively toward our mission. These accomplishments have helped us progress significantly toward our goals and have positioned us for continued success in the years ahead.

Our dedicated team of researchers and volunteers has been working tirelessly to develop innovative solutions and technologies to help mitigate the risks of water contamination. We have conducted groundbreaking studies, published research articles on the dangers of water contamination, and initiated vital partnerships with Universities for internship programs.

We are optimistic about the future and remain committed to our strategic priorities. Save the Water™ will continue to focus on innovation, collaboration, and driving growth. We will also continue to seek diverse funding sources such as grants, online donors, sponsors, and corporate partners to support our goal of developing an STW™ Water Research Laboratory. We remain committed to our mission and will work tirelessly to succeed. We are confident we can achieve our vision of attaining contamination-free, healthy water for all.

We want to extend our heartfelt appreciation to all our volunteers, partners, and donors for their unwavering support, trust, and belief in our mission. Together, we will continue to raise awareness of water contamination and remain dedicated to finding solutions.

All the best,



Frank Ramos
Founder, Save the Water™



Namratha Mysore
President, Save the Water™



WHO WE ARE

Although Save the Water™ operates mainly in North America and follows scientific procedures established by the United States Environmental Protection Agency, the impact of our analytical research and water treatment technology is universally applicable.

OUR MISSION

Conduct research to identify and remove harmful contaminants in water and

Raise public awareness about water contamination and its health impacts

OUR VISION

Achieve contamination-free, healthy water for all

Ensure all communities have access to clean, healthy water and

Protect the water supply so it stays clean for generations to come

OUR IMPACT

Our impact over the last year includes a number of opportunities to engage with our stakeholders and demonstrates the efforts that our volunteers are making to raise public awareness on the dangers of water contamination and to educate our future generations.

- Hiring experienced volunteers and identifying projects for interns, we collaborated with the development teams for university partnerships.
- Proactively responding to inquiries from external stakeholders, we participated in constructive and productive discussions.

Key Indicator	Numbers	Activity / Outcome
	<p>64 New Volunteers</p>	<ul style="list-style-type: none"> • STW™ continues to grow and has onboarded 64 new volunteers in 2022.
	<p>28 Published Articles</p>	<ul style="list-style-type: none"> • Volunteers also contributed to article writing for the “Florida Specifier” issues.
	<p>5 Public Events</p>	<ul style="list-style-type: none"> • Summer e-camp • Splash 2022 Instagram Live • Big Blue & You Instagram Live • Lagoon Fest • (NSU) Career fair

OUR WORK

Research Initiatives

Over the past year, our team has achieved significant progress across various areas. We thoroughly reviewed our technology proposals, updating them and conducting cost analyses while creating flowcharts to enhance their clarity. We also completed a detailed white sheet version of the AOT™ proposal for end-users.

Raising Awareness

In the course of 2022, our Publishing team made significant strides, publishing 28 articles and contributing material to the “Florida Specifier” issues. They diligently delved into critical topics such as water pollution, contamination, technologies, and ongoing affairs. The purpose of these endeavors was not only to educate our readers but also to emphasize the concrete impact of Save the Water™.

The screenshot shows the Save the Water website's content grid. At the top is a dark blue navigation bar with the logo on the left, menu items 'About Us', 'Solutions', 'Everglades', and 'Water News' in the center, a red 'Donate' button on the right, and a search bar. Below the navigation bar are six article cards arranged in a 2x3 grid. Each card features a header image, a title, a date, and a short text snippet.

- Indigo Color Technology: Water-saving Tech in the Textile Industry** (November 28, 2022) by Brigitte Rodriguez, Associate Researcher & Writer for Save The Water™ | November 26, 2022. Text: "In recent years, companies have grown more interested in developing eco-friendly technologies in the textile industry. However, making..."
- Microplastics: Modern Innovations to Reduce Their Presence in Water** (November 21, 2022) by Samhar Almomani, Publishing Associate : Researcher and Writer at Save the Water™ | November 21, 2022. Text: "Microplastics are defined as 'particles smaller than five millimeters.' Microplastics are caused by the..."
- What are Hydropanels? Dallas Tech Makes Drinking Water From the Air** (November 1, 2022) by Brigitte Rodriguez, Associate Researcher & Writer for Save The Water™ | November 1, 2022. Text: "In recent years, scientists have been developing new technologies for making drinking water. However, these technologies use..."
- Water Contamination- How Citizens Can Improve Water Quality** (October 24, 2022) by Samhar Almomani, Publishing Associate : Researcher and Writer at Save the Water™ | October 24, 2022. Text: "Many people feel helpless when it comes to advocating for positive change. There are big..."
- (SODIS) Solar Disinfection: Time to Revive an Underexploited Technique** (October 19, 2022) by Sakshi Kabra Malpani, Publishing Associate: Researcher and Writer at Save the Water™ | October 19, 2022. Text: "SODIS is a World Health Organization (WHO)-approved, cheap, old-school process commonly used for domestic..."
- Seawater Batteries: a Solution for Water Desalination** (October 1, 2022) by Brigitte Rodriguez, Associate Researcher & Writer for Save The Water™ | October 1, 2022. Text: "In recent years, scientists have been developing more new technologies for water desalination. However, these technologies use large..."

REMARKABLE CONTRIBUTIONS

Elevating our presence within the pages of the Florida Specifier edition, a distinguished article graces the spotlight, paired with a showcased advertisement that radiates the essence of Save the Water™.

PFAS roadmap: What's next for water, forever chemicals?

By APRIL DAY

The Biden Administration aims to address a class of chemical compounds called the forever chemicals, per and polyfluoroalkyl substances. These forever chemicals are used for different applications and products such as firefighting foam, nonstick cookware and waterproof clothing. Last October, the administration released the PFAS Strategic Roadmap, which spans from 2021 to 2024. The United States Environmental Protection Agency is taking an integrated approach that focuses on three goals: research, restrict, and remediate. The EPA will invest in research, development, and innovation to learn more about PFAS. Additionally, the EPA will look at ways to restrict PFAS entering the environment at levels that can adversely affect human health and the environment. These pathways include air, land, and water. The roadmap also includes a goal to remediate PFAS contamination by broadening and accelerating cleanup efforts. So, what's on the table for the PFAS Strategic Roadmap for the EPA's Office of Water this year? A major change in PFAS regulation is on the horizon: setting enforceable limits for PFAS in drinking water. Through the National Primary Drinking Water Regulation, the agency will set enforceable limits on two better known and studied PFAS: perfluorooctanoic acid, also called PFOA, and perfluorooctanesulfonic acid, also called PFOS. There are ongoing consultations with the Science Advisory Board for setting these enforceable limits and requiring ongoing monitoring. A proposed rule is expected to be published in the Fall, and a final rule is expected by next Fall in 2023. This timeline is shorter than required. The statute deadline

for the proposed rule is March 2023.

All public water systems may be impacted by the EPA's decision to set limits on PFOA and PFOS in drinking water. The EPA still is determining what economic impact this national primary drinking water rule will have on small or disadvantaged communities. The EPA will conduct a Small Business

aquatic environments.

The EPA Office of Water anticipates publishing improved analytical methods in the fall. These methods will enable monitoring 40 PFAS in eight different environmental matrices. During the Winter of 2022, the EPA Office of Water will seek to leverage the existing

permits and assess cumulative effects of PFAS.

During 2022, the roadmap aims to restrict PFAS discharges from industrial sources. Several industries, including organic chemical manufacturers, airports, and the rug and textile industry, will likely be affected, according to the Final Effluent Guidelines Program Plan 14, which includes an update on the PFAS Multi-Industry Study. According to the PFAS Strategic Roadmap, an Effluent Limitations Guidelines program that is multifaceted will set up national technology-based regulatory limits.

There are and will be multiple ways to engage the EPA's regulatory process throughout the year. For instance, there are several due dates for submitting comments to the EPA regarding PFAS. For example, the agency has published a notice called the National Pollutant Discharge Elimination System Industrial Stormwater Fact Sheet Series with comments that were due April 5, 2022. There also is a notice called "Integrated Risk Information System Toxicological Review of Perfluorohexanoic Acid and Related Salts" with comments that were due April 5, 2022. For the upcoming proposed PFAS national drinking water regulation, U.S. EPA has published "Meetings: Environmental Justice Considerations for the Development of the Proposed Per- and Polyfluoroalkyl Substances National Primary Drinking Water Regulation" with comments due April 21, 2022.

Among other information, documents of the proposed approaches for deriving the draft Maximum Contaminant Level goal for PFOA and PFOS are available on the EPA web page for the Science Advisory Board PFAS Review Panel Meeting of Dec. 16, 2021, to Jan. 7, 2022. ●

All public water systems may be impacted by the EPA's decision to set limits on PFOA and PFOS in drinking water. The EPA still is determining what economic impact this national primary drinking water rule will have on small or disadvantaged communities.

Advocacy Review Panel to engage small businesses, governments and nonprofits to provide advice and comments on how the rule will impact them. Two public meetings (March 2 and April 5) allowed and will allow comments on environmental justice considerations in developing the regulation.

Proposing new drinking water standards for PFAS is not all that's on the table this year. By Spring of 2022, the EPA Office of Water expects to publish health advisories for GenX and perfluorobutane sulfonic acid, referred to as PFBS. These advisories will be based on final toxicity assessments. Tribes, states and local governments will be able to use these advisories to take appropriate action related to these two PFAS.

This Summer, the EPA expects to enhance enforceable limits and requiring ongoing monitoring. A proposed rule is expected to be published in the Fall, and a final rule is expected by next Fall in 2023. This timeline is shorter than required. The statute deadline

National Pollutant Discharge Elimination System permitting system to reduce PFAS discharges into waterways. Leveraging NPDES permits focuses on sources of PFAS discharges. The agency will look to get more comprehensive data through monitoring the sources as well as the quantity of PFAS discharged by sources. An errata sheet for the draft method with corrected text was made available in February. According to the EPA's Clean Water Act Analytical Methods for Per- and Polyfluorinated Alkyl Substances (PFAS) web page, the agency appreciates comments on Draft Method 1633, the analytical method, that resulted in the errata sheet. The EPA further advises that if "stakeholders identify additional areas that need clarification, further revisions will be made."

During the Winter of 2022, the agency will also publish final recommended ambient water quality criteria for PFAS for both aquatic life and human health. Tribes and states may use these criteria to develop standards, write

From BRIDGE PAGE 1

and Hillsborough counties; the other two are the Gandy Bridge and the Courtney Campbell Causeway. It also serves as the main route of evacuation for Pinellas County, and it is part of the Florida Division of Emergency Management's evacuation route network.

Measures to reduce environmental impacts

In order to meet the potential environmental challenges of the bridge expansion, the Florida Department of Transportation is conducting a Project Development and Environment (PDE&E) Study.

Among the many factors that this study evaluates are the potential "social, cultural, economic and environmental effects" that could arise from improvement projects to existing transportation structures.

Moreover, the study is meant to position the expansion project in alignment with the requirements set forth by the National Environmental Policy Act. With regard to local ecosystems, the department is implementing efforts to avoid or otherwise minimize environmental impacts to the seagrass communities and surrounding waters of Tampa Bay. Consequently, the new bridge is being built to the east of the 1960 bridge in order to avoid

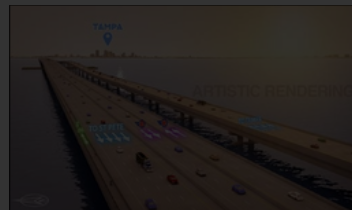


Photo courtesy of Florida Department of Transportation

The Florida Department of Transportation (FDOT) is rebuilding the existing northbound bridge, which originally was constructed in 1959, and adding capacity to alleviate traffic congestion.

disturbing critical seagrass communities found to the east of the 1960 Bridge.

In addition, several revisions to the designs for both northern (Hillsborough) and southern (Pinellas) abutments were made to minimize impact footprints that were determined to be unavoidable. To prevent water pollution associated with the construction stage, discharge prevention measures such as silt screens and

floating turbidity barriers are being used to reduce potential impacts to Tampa Bay waters. At the same time, the department recognizes that the southern end of the bridge is located above waters designated as Outstanding Florida Waters (OFW) as well as an Aquatic Preserve.

This designation, in turn, requires that construction operations abide by Rule 62-242.2

F.A.C. For this reason, the department is requesting a temporary mixing zone in the event of degraded water quality during construction in accordance with the aforementioned rule.

Another water quality measure includes the proposed turbidity monitoring plan, which ensures that turbidity levels in controlled areas return to 0 Nephelometric Turbidity Units (NTUs) on the southern end (Pinellas) and 29 NTUs on the northern end (Hillsborough). The department's Construction Engineering and Inspection (CEI) firm will be the primary team monitoring turbidity levels.

Among the many challenges posed by the project, the Florida Department of Transportation's resident engineer Greg Denise points out that the first stage of the project is the most difficult.

This involves drilling through a hard rock layer beneath the bay, followed by concrete and steel piles, which are then driven into the ground.

"Once the pile-driving is done, it should be a really good job to finish up," Denise said.

With roughly 100,000 people expected to relocate to the Tampa Bay Area during the next 50 years, this expansion project will not only serve a growing population but also ease traffic congestion and improve the growing evacuation network needs. ●

From MICROPLASTICS PAGE 8

Charge from the scrubbers that go back into the ocean.

"In fact, a 2020 study found that 'the total dry decrease owing to the use of open-loop scrubbers would be equivalent to two to four years of acidification on average.' About 80 percent of scrubbers on vessels are open-loop because they are inexpensive to install and easy to operate, but closed-loop and hybrid scrubbers serve as alternatives. Closed-loop scrubbers eliminate the need for seawater intake, as they operate with alkaline-treated water stored in tanks onboard the vessel. However, vessels equipped with

closed-loop scrubbers run into logistical challenges at ports.

Closed-loop scrubbers use caustic soda to treat wastewater, but there are no dedicated barges that can deliver the caustic soda to such vessels. Instead, caustic soda must be delivered by truck or rail, which only increases the cost of using closed-loop scrubbers. Even then, since caustic soda is a hazardous material, it is prohibited at some ports and requires special training to handle it. Scrubber manufacturers, for the time being, are cooperating with federal governments and environmental organizations to innovate more climate-friendly scrubbers and to move part of the solution.

Open-loop scrubbers have not been banned in the state of Florida, so Wärtsilä and Girmalid's patented technology could soon be implemented on vessels in Florida's ports. Florida has 11 cargo seaports and 10 container seaports for international shipping and trade.

Moreover, given that Florida has the second-longest coastline in the U.S. with no regulation to reduce or prohibit single-use plastics, microplastics will continue to

disproportionately affect Florida's bodies of water.

A reward-benefit analysis would likely need to be conducted to compare the potential increase in ocean acidification that comes with open-loop scrubbers to the increasing microplastic accumulation if open-loop scrubbers are not more widely employed using the Wärtsilä and Girmalid's patented filtration method. ●

EPA rulemaking could expand liabilities for PFAS waste

By BLANCHE HARDY, PG

The U.S. Environmental Protection Agency (EPA) has announced the addition of four per- and polyfluoroalkyl substances (PFAS) to the Toxic Release Inventory (TRI) list. The action is part of the EPA's 2022 PFAS Strategic Roadmap charting the agency's approach for addressing PFAS. PFAS are an increasingly critical public health and ecosystem concern. Thousands of PFAS chemicals have been manufactured and used internationally by a broad range of industries producing consumer, commercial, and industrial products during the past 80 years. PFAS can be found in manufactured goods such as cleaners, textiles, leather, paper, paints, fire-fighting foams, and wire insulation. PFAS are persistent; they break down over a lengthy period of time and are found everywhere, from rural areas to the most populated cities. They have been detected in surface water, groundwater, soil, and air.

The EPA requires PFAS TRI data to be reported annually by public and private facilities that manufacture, process or otherwise use TRI-listed chemicals above certain quantities. PFAS tracking began in January for facilities subject to the new reporting requirements. Required data includes quantities of chemicals released into the environment or otherwise managed on-site. Information collected through the TRI allows communities to learn how facilities in their area are managing listed chemicals. The data collected also helps bolster EPA's efforts to better understand the listed substances.

"We will use every tool in our toolbox to protect our communities from PFAS pollution," said Assistant Administrator for the Office of Chemical Safety and Pollution Prevention Michael Freedhoff. "Resour-

companies to report on how these PFAS are being managed, recycled, or released is an important part of the EPA's comprehensive plan to fill critical data gaps for these chemicals and take meaningful action to safeguard communities from PFAS."

Research increasingly indicates PFAS can adversely impact human health. According to the EPA, current peer-reviewed scientific studies have shown that exposure to certain

levels of PFAS could lead to decreased fertility, increased high-blood pressure in pregnant women, developmental effects or delays in children, and increased risk of cancers, including prostate, kidney, and testicular cancers in men. The exposure also can reduce the ability of the body's immune system, interfere with the body's natural hormones and increase cholesterol levels and risk of obesity.

The roadmap presents the timeline the EPA will follow to safeguard public health, protect the environment, and hold polluters accountable. The potential risks of exposure to PFAS requires the agency to attack the problem simultaneously on multiple fronts. Hopefully, these actions will lead to more enduring and protective solutions potent-

To EPA Page 6

Have a challenging site?

Gasoline /MTBE/ TSA	Hexavalent Chromium
Diesel	PCE
Heating Oil	TCF
Benzene	DCE
Ethylbenzene	VC
Toluene	TCA
Xylenes	DCA
Aviation Fuel	Nitrates
Motor Oil	Sulfates
Hydraulic Oil	NDMA
Kerosene	Pesticides
Cool Tar	Pentachlorophenol
TNT / DNT	Freon 11, 12, 113
PAHs	Carbon tetrachloride

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Headquartered in Florida, Hull's Environmental Services, Inc. is a woman-owned small business operating from locations in five states. Hull's performs a variety of environmental services including emergency spill response for oil, fuel and hazardous materials; contaminated site remediation, hazardous & non-hazardous waste transportation & disposal, oil-field services, industrial cleaning & maintenance, vacuum truck services, tank cleaning and a wide variety of other related services for both the public and private sector.

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www.hullsenvironmental.com

PROGRAM HIGHLIGHTS

Enriching Learning Horizons

Save the Water™ partnered with the dynamic Big Blue & You organization, arranging a thought-provoking discussion on water contamination on January 27, 2022, streaming through the Instagram Live broadcast. The session delved into the crucial topic of addressing water contamination and explored actionable measures.

In another triumphant stride, Save the Water™ organized the immensely successful Summer e-Camp, aptly named "Day in the Life of a Scientist™". This captivating, five-day virtual event, broadcasted on Facebook Live, highlighted the intricate realm of water and contamination. This event was led by the Science Teacher Karolyn Burns. With the help of her expertise, the program delivered insightful lessons on ecosystems, engaging activities, and virtual mini-labs, fostering an unparalleled learning experience.



“One of the many reviews of the Day in the Life of a Scientist™ program!”

NOTABLE EVENTS AND CAMPAIGNS



"Recruit a Shark" Career Fair

Save the Water™ initiated collaborations with three distinguished Florida universities: Nova Southeastern University (NSU), Florida Memorial University, and Miami University. Our objective was to establish a dynamic internship program, affording ambitious college students a platform to cultivate invaluable work experience within our organization. A pivotal stride in this endeavor was our participation in the NSU "Recruit a Shark" career fair, which transpired on February 16th, 2022. This event served as a conduit for us to actively enlist dedicated volunteers who resonate with our cause and vision.

Heroic Campaign to Rescue Manatees

In April 2022, STW™ executed an extraordinary social media initiative aimed at preserving the manatees. Additionally, the publishing team penned an intricate article on the official website, outlining effective methods through which people can help safeguard these majestic manatees.



Lagoon Fest

Save the Water™ stood as a prominent sponsor of the illustrious Lagoon Fest, a vibrant event hosted in West Palm Beach on November 5th, 2022. With fervor and pride, our founder and dedicated volunteers engaged in the festivities, marking a jubilant tribute to the splendor of Lake Worth Lagoon – a pristine aquatic haven nestled within Florida. Beyond the festivities, this occasion proved invaluable in allowing us to disseminate our mission among the local community and, as a result, to attract and to enlist the support of enthusiastic new volunteers.

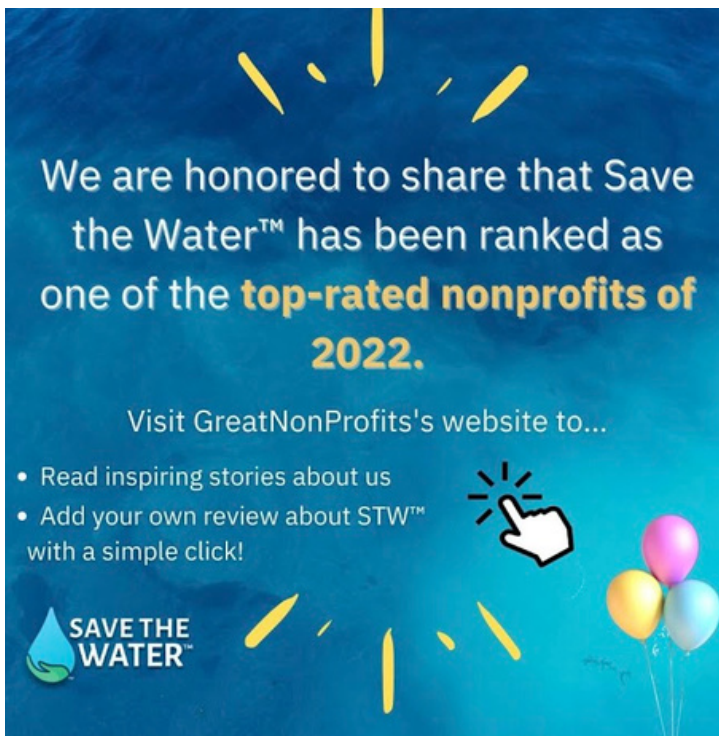
SIGNIFICANT MILESTONES

Save the Water™ Makes Waves with SPLASH 2022

Save the Water™ marked its 23rd anniversary on September 17th, 2022, with a momentous occasion. The organization hosted an exhilarating talk show titled SPLASH 2022, featuring its founder, Frank Ramos. This engaging talk show was broadcast across various social media platforms, leaving a profound impact on the perception of water contamination.

Save the Water™ Wins Top-Rated Award

Save the Water™ has been honored with the esteemed 2022 Top-Rated Award from GreatNonprofits. This recognition underscores the organization's



unwavering commitment and impactful endeavors, which have led to a significant positive impact and gained the trust and admiration of the community it serves. This accolade stands as evidence of the organization's steadfast dedication to its mission and its accomplishments in effectively advancing the vital goal of protecting water for present and future generations.

WHAT'S AHEAD

"The solution will come from scientists concentrating on solving water contamination problems and, with public awareness and support, force changes that will improve the water quality for all people."

- Frank Ramos, Founder STW™



Elevate the STW™ brand and foster collaborations with like-minded partners and organizations



Use the STW™ website and social media presence as a differentiator for brand building and partnerships



Re-invent education programs to raise awareness and grow academic relationships

Our focus on funding opportunities for our water research laboratory and meeting microbiology and wet chemistry laboratory accreditation requirements will expand our capabilities. We will continue to address questions from stakeholders and potential clients while expanding our research studies and publishing reports to raise public awareness. Hiring experienced volunteers will enable us to meet project demands, enhancing growth and innovation.

ACKNOWLEDGMENTS

We would like to extend our heartfelt gratitude to all our volunteers for their selfless support and contributions. We are deeply grateful for all our volunteers and look forward to continuing our work together in raising public awareness about water contamination.

Furthermore, we wish to convey our heartfelt appreciation to our esteemed donors and partners, whose boundless generosity and steadfast support enable us to persist in our mission. Their contributions propel us forward as we strive for a future where clean and safe water is accessible for all.

We thank you for your continued support in our efforts for contamination-free, healthy water for all!

With gratitude to our Donors!

Save the Water™ Team



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