



Solutions From Sea to Stars Focuses on Water



President and CEO Rebecca R. Rubin

As we traveled through Alaska this summer, I thought about the links between water and climate change. Alaska, like most of our planet, contains incredible natural beauty that relies heavily on water and reels hard when disaster strikes. Man-made disasters and climate change wreak havoc on our water resources. From toxic spills to severe and unanticipated drought, we can no longer afford to take our lifeline water supplies for granted. We all face water management and active conservation as our sustainable water challenges.

In this edition, our water resources theme resonates across multiple Marstel-Day water strategies that we create to help our clients transform their concerns and challenges into opportunities. You will read about two University of Mary Washington students' water conservation projects we sponsored.

Whether you are a longtime member of the Marstel-Day extended family, or a new friend, please take about a minute to watch our new video ([click here](#)) and let us know what you think on Twitter [@marstelday](#), [LinkedIn](#), or [Facebook](#). We welcome your thoughts and appreciate you sharing *Solutions from Sea to Stars* with anyone who cares about the environment and conservation.

Thank you for all you do to protect our planet's water, natural resources, and wildlife.

Wishing you all the very best.

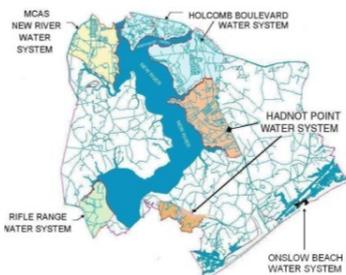
Rebecca R. Rubin

Founder, President, and CEO

Water Challenges Lead to Win-Win Partnerships for Marine Corps Installations East

We all know we need water to survive. Our communities, businesses, and national defense military bases depend on uninterrupted access to adequate water resources, efficient delivery of potable water, and healthy ecosystems. Specifically, the U.S. Marine Corps identified water challenges in several locations based on climate change, demand increases, and urban growth. They hired Marstel-Day to identify critical information about water resources at their bases in the Southeast U.S. as well as the anticipated effects of climate change. Marstel-Day's research identified water as a critical resource for Marine Corps missions as well as the livelihood and survival of the communities and ecosystems surrounding Marine Corps bases.

Our findings show that collaboration between the Marine Corps and communities, like yours, forms an essential element for conserving water. During the study, Marstel-Day helped the Marine Corps improve its collaboration with community stakeholders. We identified several partnership opportunities to implement adaptive measures that created win-win scenarios for both sides. Recommendations included expanding current partnership and outreach efforts to address water and climate change issues simultaneously, joining existing initiatives that comprehensively address the challenges, and initiating new sustainable mutual engagement strategies to help spread the word.



MCB Camp Lejeune & MCAS New River Water Systems

Port of Oakland Recognizes Marstel-Day's Lee Halterman



H. Lee Halterman speaking to Oakland's Board of Port Commissioners.

H. Lee Halterman, a Marstel-Day partner and the company's general counsel and chief financial officer, was recognized by the City of Oakland for the "immeasurable leadership role" he played in creating and managing the groundbreaking Maritime and Aviation Project Labor Agreement (MAPLA). Oakland's Board of Port Commissioners praised Halterman for "tireless dedication" and "unwavering commitment" to the community and the Port of Oakland. Halterman helped negotiate the first U.S. agreement by government, labor, and the community that helps ensure local hiring in order to address longstanding inequities experienced by disadvantaged area workers.

The Board stated that "the Vision 2000 PLA [Project Labor Agreement] and MAPLA Agreements could not have been successfully negotiated and then administered without the commitment and experience of H. Lee Halterman." Through Lee's efforts, businesses local to the Port of Oakland, as well as local labor and community-based organizations, have each bene-

fitted from the Board's administration of the agreement. For this reason, the Board approved its recognition of his more than 15 years of service in support of the MAPLA and his "tireless dedication to the community."

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Marstel-Day In the News:

#StandWithWildlife Campaign Highlights Ocean Pollution and Wildlife

Throughout this past summer, Marstel-Day organized three #StandWithWildlife campaign events focused on wildlife on land and in our oceans. Many children and families learned about nocturnal creatures at the Wildlife Center of Virginia and how our actions, regardless of age, can affect wildlife. We also held an event at the award-winning Oakland Zoo, where the zoo's conservation director, Amy Gotliffe, explained the critical nature of wildlife in our planet's ecosystem. She stated conflicts inevitably occur as people and animals share the planet's food, water, and space; and that solutions depend on humans doing what's best for wildlife.

We asked the Consortium for Ocean Leadership's Kristen Yarincik to describe the many threats to our waters and the need for research and leadership. She explained the damaging impacts of the relationship of CO2 to ocean water acidity, the expansion of fishing's bringing decreases in fish size, and energy/mineral exploration under the ocean waters.



Amy Gotliffe highlighted threats to wildlife and what each of us can do to support it.

When Security and Scarcity Collide



Army Chinook helicopter hoisting personnel mission into water.

Similar to 'energy security', 'water security' can be a reference to both water infrastructure protection (water treatment plants, water tanks, and pipes) and the availability of raw water (oceans, lakes, rivers, and reservoirs) to meet our demands. Marstel-Day's development of the Army Water Security Strategy for the Army Environmental Protection Institute focused on three main questions, which helped us determine methods for how the Army could minimize impacts of water issues on its operational and training missions.

- 1) What factors influence long-term access to sustainable water sources?
- 2) Are there potential risks and vulnerabilities?
- 3) Who are the stakeholders and how should they be engaged?

We answered these questions using a multifaceted review and multiple stakeholder analyses. Then, the Army utilized the insights and recommended actions we created to integrate water security into future and current Army policies. Plus, we helped Army water planners develop potential scenarios to gauge potential results of their actions.

Although the future cannot be predicted with certainty, a comprehensive water strategy gives organizations agility. By identifying the risks, vulnerabilities, and associated stakeholders; these strategies enable our clients to take quick action when water issues arise. Our Nation's continued security relies on our military's open access to and availability of clean and safe water.

Action Steps

What can we do to help conserve water? [Eartheasy](#) gives us some ideas:

- Install low-flow shower heads and faucet aerators to reduce water flow to less than 2.5 gallons per minute.
- Compost, instead of using the garbage disposal. In-sink garbage disposals require a lot of running water.
- Accept water at restaurants only if you plan to drink it.
- Turn off the water after you wet your toothbrush
- Put a layer of mulch around trees and plants
- Deep-soak your lawn

Water, Water Everywhere

Can we surprise you? Please read the following Fast Facts about water that you may not have known, courtesy of [National Geographic](#).

- Only five percent (5%) runs through toilets, taps, and garden hoses at home.
- Nearly 95 percent of our water footprint: food we eat, energy we use, products we buy, and services we rely on.
- The average American uses 2,000 gallons of water daily – twice the global average.
- Producing a gallon of milk requires 880 gallons of water.
- On average, 23 gallons of water is needed to produce a dollar's worth of clothes or shoes.

Marstel-Day Scholarship Supports UMW Students' Research on Plastics in the Ocean

Marstel-Day inaugurated its "Award for Innovation in Environmental Stewardship" scholarship to encourage University of Mary Washington students to develop innovative solutions to seemingly intractable environmental problems. The first recipients, Sam Fortier and Maria Morran, used the awards in the summer of 2015 to fund research they conducted on plastics polluting the



Maria Morran describes her project: elimination of plastics in the ocean gyres.

oceans. The students each received a \$2,500 cash award and had a Marstel-Day advisor with relevant expertise to guide them throughout their project. Rebecca remarked, "Maria and Sam represent the creativity of their generation and show us that the next generation is taking its environmental stewardship seriously, since there is, as they say, 'no Planet B.'"



Sam Fortier discusses his project: eliminating plastics from the economy as a whole

Water Watch: Marstel-Day Examines Air Force Water Resources Management



Marstel-Day identified water vulnerabilities that have encroached on, or could encroach on, Air Force missions. We worked with the Air Force to develop Installation Complex Encroachment Management Action Plans (ICEMAPS) for more than 50 bases in the United States and overseas. Our findings recently led the Assistant Secretary of the Air Force for Installations, Environment & Logistics to hire Marstel-Day to examine water availability and sustainability across the Air Force. In close coordination with the Air Force Civil Engineer Center's Water Panel and Headquarters Air Force, five bases were selected to receive studies called Water Resources Management and Sustainment Plans (WRMSPs) in 2016.

The WRMSPs aim to provide decision makers with an improved understanding of the current and projected Air Force water resource availability, requirements, and potential impacts on mission sustainment. The studies will recommend management actions for issues in the near-, mid-, and long-term. These action plans could ultimately support the development of a comprehensive Air Force water management strategy and associated funding program.

Featured Employee: Mary Young, Focused on Water



Ms. Young supports Marstel-Day's National Environmental Policy Act (NEPA) Program. She applies subject matter expertise in describing and characterizing water resources, including surface waters, groundwater, the floodplain, and wetlands. She also analyzes the potential impacts that projects could have on water resources. In addition, Ms. Young prepares cumulative effects analyses, which consider whether the incremental impacts of individual projects could combine to result collectively in significant impacts. She is currently working on Environmental Assessments for Naval Facilities Engineering Command Washington.

Ms. Young graduated with a BS in environmental science with a concentration in aquatic resources from Virginia Polytechnic Institute and State University (Virginia Tech). While in school, she worked as a research assistant for the Virginia Water Resources Research Center at Virginia Tech, and completed an internship with the Culpeper Soil and Water Conservation District.

Featured Employee: Mary's Quotes

"Is there any resource that we interact with and depend on more than water?"

"Is there any resource that can be so destructive when there is too much, and so devastating when there is not enough?"

"I love being part of a company that promotes water conservation with projects like the Air Force's Water Resources Management and Sustainment Plans as well as through its own sustainable business practices."