

October 2022  
Volume 7 Issue 4

## Telling Truth about Risks, Rotarians Advance Resilience

As the hard reckonings of COP 27 draw near, this issue is all about money. Calling out the injustice of catastrophic losses in Pakistan and Puerto Rico, Rotarians report this month how money is beginning to move towards solutions. **Honoring Africa as the host of COP 27**, we include news of innovative ways Rotarians are equipping African families to be economically more resilient as they face the dangers of malnutrition, drought, and loss of land. Here's a wealth of empowering news and advice:



- UN-mobilized investments bring energy justice to millions
- ESRAG Chair Gives Preview of Rotary's Role at COP 27
- Beekeeping Launched to Protect Land, Wildlife and Maasai Livelihood
- Breastfeeding: A Win for Health, Climate, and Water Conservation, with African Case Studies
- Solvatten Inventor Wins Swedish Royal Institute of Technology Grand Prize
- Rotarians, Prepare: Insurers and Regulators are Acting on Facts
- Students: Register by Nov. 30 for Earth Prize 2023
- Rotarian's Sustainability Work Invited to Global Clean Energy Action Forum
- Not Yet Fair! Resilience Must Include Everyone
- Microplastics in Shellfish: Dr. Sandra Shumway Presents on Oct. 26
- For Pure Joy: Jennifer Jones Signs the Pollinator Pledge

*Photo from Acacia Moyo: Maasai Beekeepers taste their first honey crop.*

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## UN-mobilized Investments Bring Energy Justice to Millions Despite Pandemic and War

*By Ariel Miller, ESRAG Newsletter Editor*



Appalled by the huge losses inflicted by climate catastrophes from Pakistan to Puerto Rico, Rotarians committed to fairness can take heart from the past year's significant gains in energy justice catalyzed by the United Nations. Despite the pandemic and the war in Ukraine, millions of low-income people around the world have gained access to affordable renewable energy and energy efficiency over the past year through investments mobilized by UN-Energy and the Energy Compact.

Leaders from the UN, national governments, and civil society met on Sept. 23 at the opening of the 77<sup>th</sup> session of the UN General Assembly for the EnergyNow SDG7 Action Forum to discuss challenges and opportunities and share progress through financial commitments made in September, 2021. The EnergyNow SDG7 Action Forum was organized by UN-Energy, a consortium of United Nations agencies and international organizations that are collaborating to achieve clean energy for all (SDG7) by 2030. You can download UN reports and slide decks and watch the recording of the Action Forum [here](#).

185 voluntary Energy Compact commitments totaling over \$600 billion, with specific targets and timelines, have already been made by UN member nations, regional or local governments, the private sector, and NGOs. In its first year, 2020-21, \$46 billion in Energy Compact investments financed 88 GW of renewable energy capacity and have saved 2,450 GWh of energy through energy efficiency measures.

“Energy Compact commitments have ... provided enhanced electricity access to 6 million people and improved access to clean cooking for 14 million people,” according to the [UN Department of Economic and Social Affairs](#). “Although the current energy crisis has seen an increase in the use of fossil fuels to address energy supply deficits, with coal use rising 7 per cent in the European Union in 2022, according to the International Energy Agency, the report states that the Compact community is optimistic that this will be short-lived and that the long-term effect of the energy crisis will be renewed focus towards a green transition where energy systems are more localized and resilient to international shocks, and consist of a much greater share of renewable energy.”

The energy investments have also advanced other SDGs, with 400 million tons of CO<sub>2</sub>e emissions averted (SDG13), 300,000 people gaining safe drinking water (SDG6), and 70,700 new students attending school through Compact actions in the last year (SDG4).

The Forum also included updates on [UN-Energy](#), a global financing consortium of 30 organizations whose combined staff of over 100,000 people are working in 190 countries. UN-Energy's goals are to catalyze energy access for 500 million people, clean cooking for 1 billion, and a doubling of renewables by 2025.

To date, member organizations have committed \$8.4 billion to finance renewable energy and energy efficiency projects in developing countries. UN-Energy loans total a quarter of global investments in mini-grids. In 2021 alone, UN-Energy financing provided clean, affordable and sustainable energy to 2.4 million rural households in 33 countries.

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## ESRAG and Climate Solutions

***By Dr. Patricia Armstrong, ESRAG Board Chair, 2022-23***

As I write this article, thousands of Australians are reeling from devastating floods that have hit the south-eastern part of my country, with further heavy rain and flooding expected next week. This is the third devastating flood in New South Wales this year, with record-breaking rainfall adding to

ground already saturated with water.

The causes behind these heavy rains and floods are complex. Australia is in the midst of a La Niña phenomenon, which brings unusually wet weather. This phenomenon has been compounded by the alignment of three other natural phenomena, which individually can bring wet weather, but, when occurring at the same time, bring extraordinary rainfalls such as those experienced in parts of the country over the past week. These include a negative Indian Ocean Dipole, a positive Southern Annular Mode and the Madden-Julian Oscillation (MJO) [here](#). The combination of these four naturally occurring phenomena, combined with increasing global temperatures brought about by climate change, was the recipe for the disaster that took place in parts of our country over the past week.



As with many countries across the world, Australia has recently experienced an unprecedented frequency of extreme events, such as floods and bushfires, in particular the horrific bushfires of 2019-2020 which burnt out 18.6 million hectares of forest. The IPCC Sixth Assessment Report warns that human-induced climate change is contributing to extreme events which are becoming more frequent and intense and causing “widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability” [here](#).

Rotarians, as respected members in the local and regional communities, are in a strong position to take leadership in addressing climate change. Read more to see how Rotary International and ESRAG can help you do that.

[Read More](#)

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## Beekeeping Launched to Protect Land, Wildlife, and Maasai Livelihood

**By Eng. Felix Kariuki, Lavington Eco Rotary Club**



Kenyan and American Rotarians are teaming up with a Maasai community and the Kenyan NGO Acacia Moyo to protect land vital both to wildlife and the Maasai, who are perfectly poised to be leaders in environmental stewardship of Kenya’s fragile natural resources. Kenya’s oldest Rotary Club (Nairobi), one of its newest (Lavington Eco) and the Rotary Club of Los Alamos (New Mexico) are raising money for a bore well as part of Acacia Moyo’s beekeeping initiative. Beekeeping can generate significant income for the Maasai because of its low operating costs and the huge unmet demand for honey in Kenya and worldwide. The region’s indigenous acacia trees provide pollen that produces a distinctively sweet

honey.

The bore well will irrigate a bee forage garden with the potential for four honey harvests a year, generating new revenue that will reduce the pressure on Maasai families to sell off their land to meet



their families' needs. It will also reduce their dependence on pastoralism, which generates significant greenhouse gas emissions.

*Photo: The Ntalala Women Microfinance Group working on their beehive community assessment.*

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## Rotarians, Prepare: Insurers and Regulators are Acting on Facts

**By Joey O'Brien, ESRA Director**

The Northern Hemisphere was 1.42°C above normal in June 2022. Record heat domes, hurricanes, cyclones, once in 10,000 year droughts, fertilizer price increases, shortages of grain and rice, and melting permafrost are all the result of the changes we have caused to date.

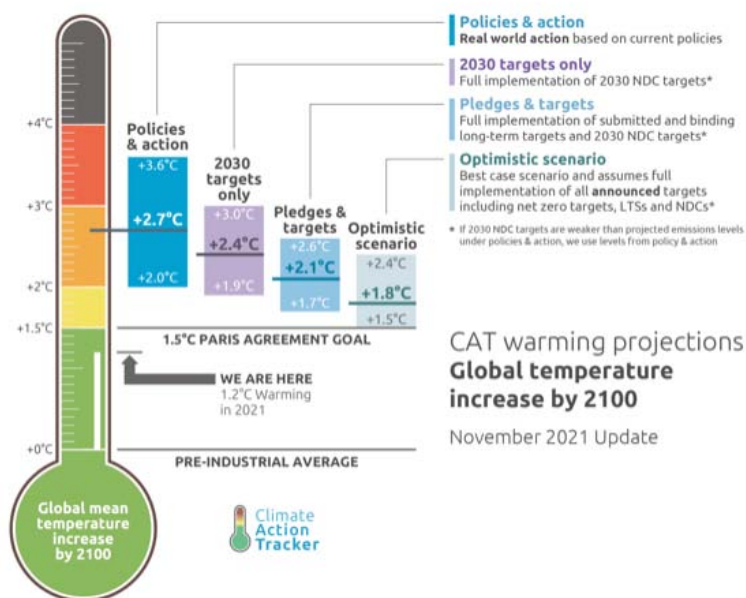
I read that in 2022 world-wide we are rapidly approaching climate disaster losses of 1 trillion USD. I consult for a number of regional and international organizations, and to all of them I repeat: **change will be driven by banking and insurance regulations**. Due to the proliferation of extreme climatic events in 2022, I believe our insurers' and bankers' ESG requirements will become more specific, and far faster than we anticipate, probably between 2024 and 2026.

This is because North American and global environmental, social, governance (ESG) expectations and, more specifically, climate disclosure have evolved significantly over the past year, particularly for those companies which are publicly listed or in the financial sector. In October 2021, the Canadian Securities Administrator (CSA) released the proposed National Instrument 51-107 Disclosure of Climate-Related Matters ("Proposed Instrument"). This proposed mandate for Toronto Stock Exchange (TSX)-listed companies was modeled after the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. Shortly after the CSA announcement, the U.S. Securities and Exchange Commission (SEC) issued the Enhancement and Standardization of Climate-Related Disclosures for Investors ("SEC Proposed Rule"), which again hews closely to the TCFD-recommended guidelines.

Even if your organization isn't regulated by the likes of the CSA, SEC or Canada's Office of the Superintendent of Financial Institutions (OSFI), there will be downstream impacts that will affect your business. These could include a bank loan application, or a request from a vendor or customer because they are required to disclose their supply chain emissions to their governing bodies. Whether your organization is considering ESG and climate disclosure 1. to identify risk, 2. to tell your sustainability story, or 3. because your regulator requires it, it's important to understand that this is not a sprint but a marathon.

I just looked for Rotary International's ESG plan: we don't have one! At least not on the [website](#). We can either wait for the regulations to be mandated and scramble to meet them, or we can plan and implement prudent steps now. I know I am trying to guide my clients in this direction. The [Banff Marathon](#) is an example of one that meets the UNFCCC sectorial call for climate action.

*Image: Climate Action Tracker graph showing how public policy and national pledges alone will fail to prevent catastrophic global warming.*



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## Breastfeeding: a Win for Health, Climate, and Water Conservation

By Ariel Miller



Rotarians: by strengthening community support for breastfeeding, you can help babies thrive, save their families money, and reduce the carbon emissions and water consumption of a major industry. Understanding that breastfeeding is not feasible in all cases and that formula prepared under clean conditions is a safe alternative, the key is not to increase mothers' anxiety and guilt, but to improve health care providers' knowledge of how to help moms succeed if they are able and choose to breastfeed. Rotary Peace Fellow and nutrition professor Isabelle Michaud-Létourneau is working to get this life-saving message to Rotarians and other key influencers worldwide, including Africa and

Canada.

You can hear her insights during the ESRAG Projects + Seminar on Wednesday, Dec. 21.

By sharing this opportunity with fellow Rotarians working on maternal and child health, water security, and community development, ESRAG members can mobilize a wide array of Rotary expertise to combine climate solutions with other key humanitarian and development goals. That's the message that Michaud-Létourneau shared when she briefed ESRAG's Food Waste Task Force in July.

For insight on implementation, you can read the [African case studies](#) which Michaud-Létourneau co-authored as the lead of the evaluation team of the Stronger With Breastmilk Only (SWBO) initiative, a collaboration between Alive & Thrive, UNICEF, and the World Health Organization (WHO) and stakeholders in 24 nations of Central and West Africa. Downloadable in either English or French, the evaluation includes case studies on four of the countries (Democratic Republic of Congo, Senegal, Sierra Leone, and Chad) as well as the entire region. UNICEF and Alive & Thrive have published a useful [two-page summary](#) of research on the factors that influence breastfeeding in Africa.

*Photo: nurses, midwives, and doctors in a training with Isabelle Michaud-Létourneau in Mali.*

[Read More](#)

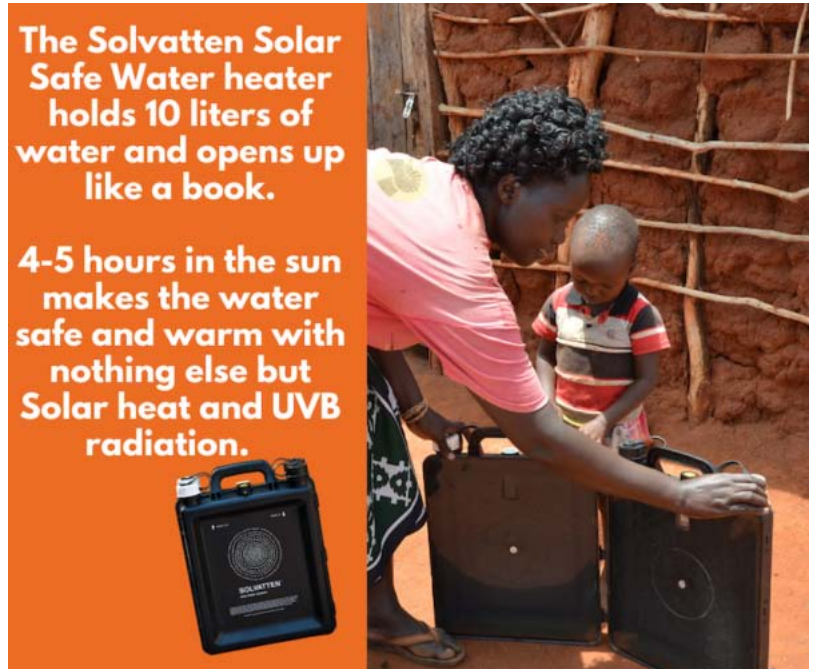
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## Petra Wadstöm Wins Grand Prize for Solvatten Safe Water System

Sweden's Royal Institute of Technology, KTH, has awarded its 2022 Grand Prize to Petra Wadström, founder and inventor of the Solvatten portable solar-powered water treatment and heating system. Kits last 7-10 years and are designed for off-grid communities without other access to safe water. The Swedish award recognizes people who have made groundbreaking discoveries. "Clean water is crucial for people's health,



opportunities, and quality of life,” KTH wrote in its prize citation. “Petra Wadström is a unique problem solver with a large measure of stubbornness who, through her innovation Solvatten, has changed the lives of many people – particularly women – around the world.”



Through ESRAG's [Solar Safe Water Challenge](#), led by Gunilla Ostberg and Ingrid Hesser of Sweden, Rotarians have provided Solvatten kits to 300 Kenyan households totaling about 1,500 people in just a year and a half, equipping these families to heat and purify water without fuel. 500,000 people around the world now use Solvatten water kits. Each one can heat and treat up to 40 liters of water a day, saving 6-8 trees and 1-1.5 tons of CO2 emissions a year. Click here to [see how this project liberates families](#) from significant burdens on their time and budget, and advances all seven of Rotary's Areas of Focus.

Wadström and Solvatten have won many other awards including Aftonbladet's Environmental Hero Award, the EU Prize for Women Inventors, the UNFCCC Momentum for Change, the WWF Climate Solver, and the Swedish Design Prize. Congratulations to Petra Wadström, and to the Rotarians who are passionately recruiting donors throughout the world. Click [here](#) to learn about the Solvatten technology. *Graphic Design: Ingrid Hesser. Photo: Solvatten, used with permission.*

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## Students: Register by Nov. 30 for Earth Prize 2023!

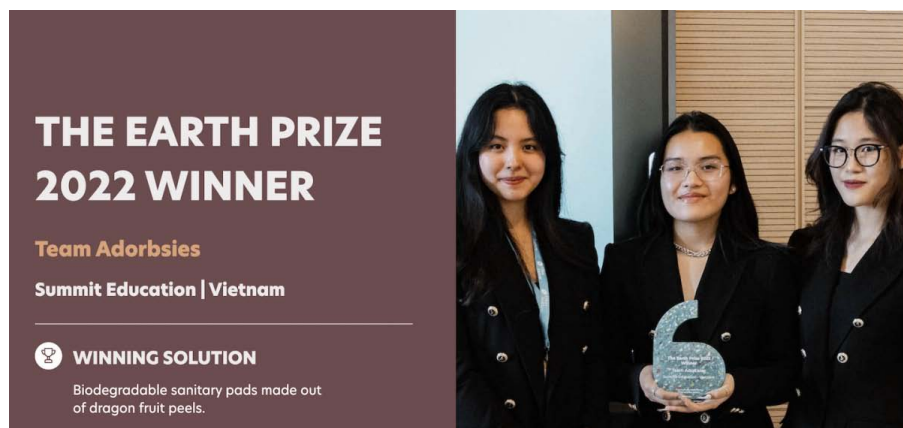
[The Earth Prize](#) is an annual global \$200,000 environmental sustainability competition for **students between the ages of 13 and 19**, which rewards the teams whose projects have the most potential to address environmental issues. The winning team receives \$100,000 to be split between the team members and their school. Three runner-up schools will be rewarded with \$25,000 each. Additionally, the teacher selected as The Earth Prize 2023 Educator of the Year will receive a \$10,000 prize! You can watch the competition's [trailer here](#).



The contest is a learning adventure created by the [Earth Foundation](#), which was founded in Geneva in 2020 to inspire, mentor, and empower students and young entrepreneurs to tackle environmental challenges. As part of the competition, participants have **access to 40 Mentors from top universities** who will guide them with their projects, and to **exclusive learning content** covering key environmental sustainability concepts and featuring young environmental change-makers from around the world.

The Earth Prize is a great opportunity for students to learn more about environmental sustainability

and entrepreneurship, and to make an impact. Over 700 teams from 144 countries and territories took part last year. The Net Zero Heroes of Our Lady of the Snows School in Canmore, Alberta, who wrote in ESRAG's September 2022 newsletter about their success in persuading 300 Rotarians to donate \$2,500 to offset their travel home from the D5360 District Conference, placed in the top 34 and were honored as a [Scholar Team](#) on the Earth Prize website. Their advisor, Rotarian Luc Arvisais, sent ESRAG this information on the 2023 Earth Prize, encouraging ESRAG members to invite schools to compete this year. Participation is free! Students and teachers can register on the Earth Prize [website](#) until November 30th.



*The 2022 winning team, from Summit Education in Vietnam, designed biodegradable sanitary pads made from dragon fruit peels. Photo used by permission from [Earth Prize](#).*

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## Rotarian's Sustainability Work Included in First Global Clean Energy Action Forum

**By Ariel Miller**

The US Department of Energy (DOE) teamed up with Carnegie Mellon University to hold the first-ever Global Clean Energy Action Forum (GCEAF) in Pittsburgh, USA on Sept. 21-23, convening global clean energy leaders from government, business, and civil society including youth. DOE invited Rotarian Brian Braginton-Smith to discuss his sustainable infrastructure projects on the coast of Massachusetts. An esteemed technical advisor to ESRAG members, Braginton-Smith is Executive Director of the Lewis Bay Research Center and Chair of the Ad Hoc Yarmouth Rotary Energy Committee.



Building on decades of environmental solutions, including working with the US Government on the Cape Wind offshore wind project, he is developing an integrated net-zero-plus energy, water, building, agriculture, and transportation demonstration project on Cape Cod, a peninsula exposed to the North Atlantic. Click on this [link](#) to view the talk he gave Sept. 14 to the ESRAG Projects + Seminar about the project's microgrid resiliency principles.

“I was invited by the DOE Loan Program office for the work my group is doing in Net+ Connected Community infrastructure development,” he explains. “DOE staff are wild about the holistic approach we are following in the nexus of the built environment, renewable energy, sustainable water, livable communities and agriculture, as well as our including community education and workforce training to accelerate the process and gain synergistic impact. The money is at DOE waiting for us, once we flesh

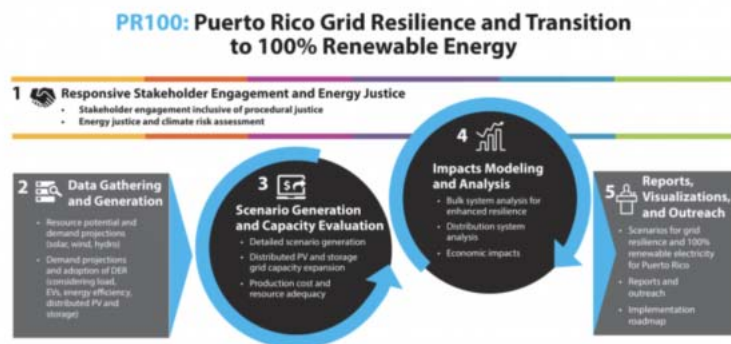
out our organizational structures a little more. They also agree that our project could be a key to eliminating the gridpower quality issues on Cape Cod. This would be a significant public benefit and a global showcase project. The entire GCEAF event was based on the realization that we as a global society are out of time. NASA was there with their amazing geospatial info that clearly showed the desperate scenario that is upon us.”

*Photo: map of Cape Cod including foci of the demonstration project*

[Read More](#)

## Not Yet Fair! Resilience Must Include Everyone!

**By Brian Braginton-Smith, Lewis Bay Research Center and Yarmouth Rotary Club**



As the hurricane season batters the vulnerable Puerto Rico coastline, the already-fragile utility infrastructure systems buckle and collapse. The nightmare of infrastructure damage that costs millions and takes years to complete cannot continue. It is not fair to those on Puerto Rico who suffer the consequences, or those who foot the bill again and again to patch up failed legacy systems that were not well-designed in the first place.

This was the answer the US Government's Federal Emergency Management Agency (FEMA) and Department of Energy came to after Hurricanes Irma and Maria slammed Puerto Rico in 2017. It's why the National Renewable Energy Lab (NREL) has been engaged in a multi-year study to document the present state of Puerto Rico's energy infrastructure and how to fix it. The study, due to be completed in 2023, will include a redesign, based completely on renewable energy and SMART Grid technology.

A multi-agency effort called [PR100](#) – the Puerto Rico Grid Resilience and Transition to 100% Renewable Energy - this study has illuminated some very important facts. One of the most important, documented by the survival of Puerto Rican solar power installations after recent hurricanes, is that installations designed to survive in extreme events worked. Florida experienced similar results following the landfall of Hurricane Ian in September. Communities and buildings that met Florida's newest, most stringent building standards survived, while those that had not been brought up to code did not.

The underlying fairness issue is that the new standards increase the survivability of the built environment but also drive up the cost of construction, raising the cost beyond reach for those on the lower income tiers and exacerbating the critical shortage of affordable housing. Climate change is a serious threat to business as usual everywhere. Every community needs to consider the threat and how to deal with the costs of preventing the worst impacts, while also ensuring that no one is left out or left in harm's way.

*Graphic: U.S. Department of Energy Grid Deployment Office*

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## Microplastics in Shellfish: Dr. Sandra Shumway Presents Oct. 26

Internationally renowned marine biologist Sandra Shumway will address ESRAG's Oct.



26 Projects+ Seminar on “Demystifying Microplastics in Shellfish.” Microplastics are pervasive in the marine environment, and filter-feeding molluscan shellfish are exposed to them routinely. She’ll address a crucial question: is consuming shellfish harmful to human health? “This is one of the most important presentations for this year,” says Dr. Chris Puttock, a member of The Rotary Foundation Cadre of Advisors for Water and the Environment. “Sandra Shumway is the Rachel Carson of the past two decades.” The talk is at 1 pm UTC, 9 am ET. [Register here](#).



Sandra Shumway, PhD, DSc, is Research Professor Emerita of Marine Science at the University of Connecticut, USA. With Ph.D. and D.Sc. degrees from the University of Wales, she has authored over 180 peer-reviewed scientific publications, edited nine books, and currently serves as the Editor of the *Journal of Shellfish Research* and *Reviews in Fisheries Science and Aquaculture*. She previously served as Editor-in-Chief of the *Journal of Experimental Marine Biology and Ecology* and is the founding editor of *Harmful Algae*. A former Marshall Scholar, Dr. Shumway’s current research is focused on the impacts of harmful algae on shellfish and aquaculture, the control of aquatic nuisance species in marine aquaculture operations, and microplastics. She has received numerous recognitions and awards including Fellow of the American Association for the Advancement of Science.

## For Pure Joy, See This!

**By Chris Stein, U.S. National Park Service**



HELLO from a cooling Minnesota.

Fellow ESRAG members, please be advised that on September 21, 2022, RI President Jennifer Jones signed an Operation Pollination Partnership along with fourteen other Rotary leaders at the Evanston Ecology Center in Illinois, home of the headquarters of Rotary International.

Most of the signatories are from the Great Lakes Watershed, a priority region for Operation Pollination in 2023. The other

people in the photo are Operation Pollination Ambassadors from Chicagoland.

To date, 25 Rotary Districts in the US, India, Canada, and England have signed onto Operation Pollination, as have clubs in Scotland, Wales, and Mexico. That’s a good start but just a start. We’d like to expand this to every continent save Antarctica! [Email me](#) if you’d like to learn more.

*Christopher E. Stein is Chief, Heritage Areas and Large Landscape Initiatives, U.S. National Park Service, Interior Regions 3,4, and 5. He is also one of ESRAG’s most passionate promoters of*

## **The Environmental Sustainability Rotary Action Group**

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