

Biodiversity for a Livable Climate

“Scenario 300: Making Climate Cool”

April 30, 2017 ☀ Washington, DC



Restoring our ecosystems will benefit all life on Earth by reducing excess atmospheric greenhouse gases, cooling the biosphere, and reversing global warming. Protecting and restoring our forests, grasslands, and wetlands is critical for increasing carbon storage naturally while also cooling the lands.

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❧ Thank you ❧

*Thank you to all the volunteers who helped put
this conference together, and thank you to all their
partners for the behind-the-scenes support...
and patience!*

The **Mission** of Biodiversity for a Livable Climate (Bio4Climate) is to promote the power of the natural world to stabilize the climate and to restore biodiversity to ecosystems worldwide. By hosting this conference, “Scenario 300 – Making Climate Cool!”, the DC chapter of Bio4Climate, seeks to expand the climate conversation in the nation’s capital region to include regenerative agriculture, diverse eco restoration approaches, and new water management strategies among the potential solutions to climate change.

Desired outcomes for participants:

- People will be introduced to new ideas that represent the other side of the CO₂/Climate equation – the biological “sink” – and to the urgent need for ecosystem restoration in general, along with some of the organizations that are working on these solutions.
- People will gain an understanding that the causes of climate change are broader than just concentrations of atmospheric CO₂.
- People will begin to see ways that humans can partner with Nature, in back yards, urban parks, farmlands, rangelands, roadsides, forests, wetlands, and coastal regions.
- People will see that biological approaches can likely get faster results than emissions reductions and can help buy time for the transition to renewable energy sources.
- People will begin to understand the critical importance of small water cycles, including how they can help to cool land areas.
- People will leave the conference inspired and hopeful, with practical ideas and materials to take action steps to help cool the planet.
- Conference speakers and panelists will learn from each other and will see possibilities for adjusting strategies in their own work.
- Vibrant networking and collaboration will develop within the Washington DC area and beyond to get individuals and communities working together to promote and implement practices that restore ecosystems, large and small.

Scenario 300: Making Climate “Cool”

April 30, 2017, 8:30 am – 5 pm

At the offices of Steptoe & Johnson LLP

“Scenario 300” is strategy for going from 406 ppm to 300 ppm of CO₂ in our atmosphere. By regenerating healthy soils and ecosystems, along with managing local water cycles, we can reverse our disastrous climate course. During this inspiring and informative conference, we will discuss how to rapidly move carbon out of the skies and use it to produce biomass and create stable soil organic matter in the ground.

8:30 am – Registration, Coffee and Conversation

9:00 am – Welcome and Overview

Philip Bogdonoff, Director, Washington DC Chapter, Biodiversity for a Livable Climate

Adam Sacks, Executive Director, Biodiversity for a Livable Climate

9:15 am – Back to 300 (or Nature Wants to be Wet and Cool)

Many strategies exist for taking carbon dioxide out of the atmosphere and rehydrating the continents. Jim Laurie will review a broad vision of the potential for each ecosystem to be restored and to sequester carbon, building a graphic showing the global potential and timescale.

Jim Laurie, Restoration Ecologist, Biodiversity for a Livable Climate

9:45 am – Regenerative Farming: Front line action to reverse global warming

Farmers have the potential to be the front-line heroes in the quest to reverse global warming. They manage a “technology” for massive planetary geotherapy that is tried and tested and available for widespread dissemination right now. It costs little and is adaptable to local contexts the world over. It can be rolled out tomorrow providing multiple benefits beyond climate stabilization. It’s farming the way the Earth does – with water, soil, land, clean air, and a stable climate. It’s farming like human health, animal health, and ecosystem health matter. It’s farming in a way that restores and even improves on soil’s natural ability to hold carbon. By emphasizing whole systems — and food systems functioning as a whole — farmers can increase productivity while healing the planet.

Kris Nichols, Chief Scientist, Rodale Institute

★ 10:20 am – Q&A with Jim & Kris

10:30 am – *Quick Break (15 mins)*



10:45 am – *Agriculture and Land Management: Restore soil fertility, produce nutritious food, and increase soil carbon and water retention capacity*

Restorative land management includes regenerative grazing and agricultural practices that build healthy soils and support a diversity of life above and below ground. It applies to a range of settings, from urban to rural, and from small to large-acreage farms and ranches. Managing for ecosystem health brings a host of co-benefits, ranging from the production of more nutritious foods to increasing resilience against droughts and floods to building local economies and stronger communities.

Panel moderator: *Gina Angiola, Deputy Director, DC Chapter, Biodiversity for a Livable Climate*

Panelists:

- **Margaret Morgan-Hubbard** – ECO City Farms
- **Ed Huling** – New Day Farms
- **Cleo Braver** – Cottingham Farm
- **Nick Maravell** – Nick’s Organic Farm

★ Q&A with Panelists



Announcements

12:00 pm – *Organic Lunch*



1:00 pm – *The New Water Paradigm*

Our conventional view of water for decades has been to send it out to the oceans as quickly as possible. A new water paradigm developed by Michal Kravcik and colleagues explains why it's so important to keep water where it lands on the ground for as long as possible. This simple shift in water management can make a dramatic difference in the course of global warming.

Adam Sacks, *Executive Director, Biodiversity for a Livable Climate*

1:20 pm – *The Small Water Cycle As a Climate Tool*

Healthy soils and water cycles are closely intertwined. Opportunities abound to restore fresh and saltwater wetlands, and to manage urban, suburban and rural water flows in ways that help cool the planet. Nature has fascinating and powerful systems for water cycling; working WITH nature is vital to restoring healthy biodiverse ecosystems, to building resilient communities, and to cooling our human environment. Examples include small and large water cycles, the role of animals like beavers in restoration efforts, human engineering strategies at local, state, national, and international levels, wetland restoration, and living shoreline programs.

Panel moderator: Charlene Johnston, *Washington DC Chapter, Biodiversity for a Livable Climate*

Panelists:

- **Dan Medina**, PhD, PE, Senior Engineer, Limnotech
- **Emily Landis**, Wetlands Strategy Manager for Global Marine Team, The Nature Conservancy
- **Claudio Ternieden**, JD, MPP, Director of Government Affairs, Water Environment Federation

★ Q&A with Panelists

2:30 pm - *Quick Break (15 mins)*



2:45 pm – Food Forests and Permaculture

Perennial food systems can play a vital role in developing sustainable food supplies while restoring ecosystems. Food forests work WITH nature to restore carbon, water, and nutrient cycles, optimizing food production while minimizing requirements for external inputs. New food options abound and can be grown in back yards and local communities. Permaculture principles have broad application to building resilient communities.

Lincoln Smith & Ben Friton of *Forested, LLC*

3:30 pm – Community and Movement Leaders: Legislation, Advocacy, and What Can I Do?

There are many ways to participate in this transformative movement to build sustainable, healthy, resilient communities and to restore ecosystem function. From engaging elected officials, to using your wallet to support regenerative/restorative activities, to transforming your own front or back yard to sequester more carbon, to growing your own food. All of us have a role – or many roles – to play in reversing global warming, restoring ecosystem health and ultimately cooling the planet to a safe average temperature.

Panel moderator: **Tod Wickersham**, *Washington DC Chapter, Biodiversity for a Livable Climate, and President, Beneficial Results LLC*

Panelists:

- **Paul Tukey**, Author, *Organic Lawn Care Manual*, and Chief Sustainability Officer, Glenstone Museum
- **Alexis Baden-Mayer**, Political Director, Regeneration International and Organic Consumers Association
- **Ling Tan**, Founding member of Safe Grow Montgomery
- **Betsy Nicholas**, Executive Director, Waterkeepers Chesapeake and Fair Farms

Note: Author Paul Tukey will be available to sign books at the end of the conference.

★ Q&A with Panelists

4:30 pm – Community Conversation

4:45 pm – Concluding Remarks



🌿 Bios 🌿



Gina Angiola, MD is a retired physician who has served as an educator and organizer on a wide array of issues ranging from election integrity to environmental sustainability. Most recently, she helped lead the successful campaign for a legislative ban on fracking in Maryland. As a lifelong advocate for healthy environments and a climate activist for over 14 years, she has worked to accelerate the transition to a renewable energy-based economy; she is now committed to promoting ecosystem restoration as the most urgent priority in addressing climate change. She serves as a Board Member of Biodiversity for a Livable Climate and Deputy Director of the DC Chapter, and as a Board member of Chesapeake Physicians for Social Responsibility. She received her Bachelor of Science in Chemistry at MIT and her MD from University of California, Irvine.



Alexis Baden-Mayer, Esq., Political Director, Regeneration International and Organic Consumers Association. Regeneration International, a project of the Organic Consumers Association, is a 501(c)(3) nonprofit dedicated to building a global network of farmers, scientists, businesses, activists, educators, journalists, governments and consumers who will promote and put into practice regenerative agriculture and land-use practices that: provide abundant, nutritious food; revive local economies; rebuild soil fertility and biodiversity; and restore climate stability by returning carbon to the soil, through the natural process of photosynthesis. Through our global network, we are connected to 3.6 million consumers, farmers, activists, scientists and policymakers in over 100 countries. <http://regenerationinternational.org>



Philip Bogdonoff is an engineer by training and an ecologist by heart. He serves as a Board Member of Biodiversity for a Livable Climate and Director of the Washington DC Chapter. He is a past trustee and board chair of Friends Community School; a co-founder of the Sustainable Washington Alliance; a past vice president of the Millennium Institute; and has been a consultant in the Environment Department of the World Bank; and worked as research Assistant in the Section of Ecology and Systematics at Cornell University, helping to model the global carbon cycle. He and Jim Laurie constructed DC's first “Living Machine” more than 15 years ago. More recently, he facilitated the introduction of Maryland's Healthy Soils bill (HB1063), which we expect Governor Hogan to sign any day now.



Cleo Braver has the pleasure of living on Cottingham Farm with her husband Allie Tyler, where she and her two full-time employees produce certified organic vegetables and pastured meat and eggs in order to contribute to a year-round natural resource-based economy. She sells to grocers, restaurants and any member of the public who wishes to drive out to the farm on Thursdays-Saturdays. She enjoyed a previous career as an environmental lawyer for a public company, and she has always advocated for ways in which the law can serve the public interest, particularly with respect to the environment. Most recently, she has been engaged in efforts to create the non-profit Eastern Shore Food Hub to aggregate, market and distribute locally and sustainably produced foods, and engage communities in growing and eating

healthy foods and recognizing the direct relationship between their personal food choices, personal and public health, the environment, and the economy.



Ben Fritton is a soil ecologist, consultant and educator from the Washington DC area. For more than a decade he was a speech professional working with politicians, heads of state, CEOs, and philanthropic icons from around the world. In 2010, with the goal of helping to increase educational awareness and hyper-local food resiliency, he co-founded a non-profit called Can YA Love. Using biomimicry and his patented vertical gardening systems, he works to help people restore degraded lands into functioning ecosystems that produce what people need. In 2014 he joined Forested to help develop the most ecologically-sound agro-ecosystem possible.



Ed Huling is a nutritionist, researcher, environmentalist and farmer. He led a research project at the USDA about fourteen years ago, and learned about the decline of nutrients in our soil and our food. He founded New Day Farms to practice regenerative agriculture to address this serious issue and provide genuinely nutrient-dense greens to the public. He is also deeply interested in the role of healthy soils in the context of climate and is actively pursuing projects that will help build our knowledge base regarding this important relationship.



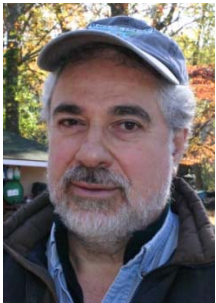
Charlene Johnston, PE, is a professionally licensed Civil Engineer and Program Manager at AECOM. She has more than 20 years of engineering experience. Over the past 15 years, Charlene’s professional focus includes climate resiliency and control of stormwater projects and flood studies. Her passion is green infrastructure (GI) / low impact development (LID) and building resiliency in communities. Charlene was a member of ASCE’s Blue Ribbon Review Panel to review the Water Environment Federation’s Manual of Practice No. 23, Design of Urban Stormwater Controls. She is a member of the DC Chapter of Biodiversity for a Livable Climate, Environmental Water Resources Institute, and the Water Environment Federation.



Emily Landis is the Global Coastal Wetlands Strategy Lead at The Nature Conservancy. Her primary focus is on the role coastal wetlands play in sequestering carbon and climate adaptation. Emily comes with a marine background working for the Global Ocean Commission, Pew Charitable Trusts, and Rare. She holds a Master’s Degree in biology from University College London, and holds a Bachelor of Arts degree in environmental science and international policy from American University.



Jim Laurie, Restoration Ecologist. Jim is a biologist from Rice University and is a pioneer in biological remediation of waste water. He was the technical manager of the world’s largest “Living Machine” project to clean raw municipal sewage with no toxic chemicals. The facility, through a grant from the EPA, processed 80,000 gallons/day using the “living machine” methodology invented by ecological visionary, and Buckminster Fuller Award recipient, John Todd. Prior to that, for twenty years Jim was a biologist and trainer in the chemical industry in Houston, TX, where his work with living machines resulted in processing effluent cleaner than possible with conventional technology. Jim has also been a passionate advocate for Holistic Management of grasslands in the past decade. He began studying with Allan Savory twenty years ago in Texas, has spoken about Holistic Management at Harvard, MIT, Tufts, the Stockholm Environment Institute, and at meetings of the Massachusetts Climate Action Network (MCAN) and Northeast Organic Farmers Association (NOFA), and has been instrumental in spreading the message in New England. Jim is also co-founder of a lively and sophisticated Google Group, [Soil-Age](#), and he invites you to join!



Nick Maravell, Farmer, Buckeystown, MD. Nick has been farming organically for more than 40 years, using a diversified grass-based farming system, with an 8-12 year rotation. Committed to developing local and regional food systems, Nick has helped establish and operate several farmer cooperatives, has conducted on-farm organic research in cooperation with USDA and Land Grant Universities, and has worked on a national organic research agenda and legislation to fund on-farm organic systems research. He has been active in many local, state and national groups dedicated to organic and sustainable agriculture, and was instrumental in establishing the MD Dept. of Agriculture organic certification program. Nick served a five-year term on National Organic Standards Board (2011- 2016).



Daniel Medina, PhD, PE, D.WRE, is a Senior Engineer based in LimnoTech’s Washington DC office, who specializes in water resource systems planning and climate change and resilience. His experience encompasses a wide array of water resources areas, especially in urban water issues including flood risk management, water supply, watershed restoration, climate change impacts, and the application of green infrastructure for stormwater management. He led projects in North America, Latin America, the Caribbean, Europe, and the Middle East. He was invited to testify before the U.S. Senate Environment & Public Works Committee. Dan has authored over 80 publications, presentations, and workshops on urban watershed issues. He was co-editor of the latest Manual of Practice for Design of Urban Stormwater Controls published jointly by WEF and ASCE. He is a consultant for the World Bank and was formerly a professor of Civil Engineering at Northeastern University in Boston, Massachusetts.



Margaret Morgan-Hubbard, Founder and CEO of ECO City Farms, is an organizer, educator, activist and life-long environmentalist. Morgan-Hubbard’s prior professional experience includes: directing the Engaged University at the University of Maryland; leading the Office of Communications at the US Environmental Protection Agency; heading a national environmental organization and managing DC’s Low Income Weatherization and related Block Grant housing programs. She is a state-certified compost site manager, an active member of the Port Towns Community Health Partnership, and a recipient of the National Capital Area Chapter American Planning Association’s Distinguished Leadership of a Citizen Planner award. Morgan-Hubbard holds a BA from Bennington College, a Masters from Columbia University, and a second Masters from New School for Social Research, where she also completed her coursework for the PhD.



Elizabeth (Betsy) Nicholas, Executive Director, WATERKEEPERS® Chesapeake and Fair Farms. Betsy has more than 16 years of experience in environmental law and policy. Upon joining WATERKEEPERS® Chesapeake in December 2012, she saw an opportunity to help farmers develop management practices that benefited the farmers and improved water quality. With much outreach and collaboration, Fair Farms Maryland was born. Fair Farms is now a movement of Marylanders of all stripes, working together for a new food system — one that’s fair to farmers, invests in homegrown, healthy food, and restores our waterways instead of polluting them. www.waterkeeperschesapeake.com



Dr. Kristine Nichols, Chief Scientist, Rodale Institute. Dr. Kristine Nichols examines the impacts of management such as crop rotation, tillage practices, organic production, cover crops, and livestock grazing on soil aggregation, water relationships, and glomalin at the Institute. She received a Bachelor of Science in Plant Biology and in Genetics and Cell Biology from the University of Minnesota, a Masters in Environmental Microbiology from West Virginia University, and a Ph.D. in Soil Science from the University of Maryland. Dr. Nichols has worked as a Soil Microbiologist with the USDA for over 14 years, the first three in Beltsville, MD and then at Agricultural Research Service (ARS) Northern Great Plains Research Laboratory (NGPRL) in Mandan, ND for the next 11 years.



Adam Sacks, Executive Director. Adam has had careers in education, holistic medicine, computer technology, politics and advocacy. For five years he directed a non-profit that worked with communities invoking basic democratic and constitutional principles to oppose detrimental local corporate activity. He has been a climate activist for the past sixteen years and has been studying and writing about Holistic Management since 2007. On the side he is an artist, writer, and student of classical piano. His primary goal is regeneration of biodiversity and a livable planet.



Lincoln Smith runs Forested, a 10-acre forest garden in Bowie, MD. He tests forest farming methods, educates aspiring forest farmers, consults on new forest farms and brings forest products to market. He produces a forest garden farm share, has designed food forest parks planted in the DC region, and holds forest-to-table events. Check out the National Geographic article about his forest garden in Bowie, MD (www.Forested.us).

Ling Tan is a founding member of Safe Grow Montgomery, an all-volunteer coalition that advocates for safer communities through healthy, pesticide-free lawns and outdoor spaces. Safe Grow Montgomery's efforts has made Montgomery County, Maryland, the first county in the country to enact legislation that would restrict the use of harmful lawn pesticides on public and private properties. She is also the pesticide chair of Sierra Club Maryland, working on related state legislations and grassroots pesticide campaigns.



Claudio H. Ternieden, is the Senior Director of Government Affairs and Strategic Partnerships at Water Environment Federation in Alexandria, VA. Claudio directs WEF's legislative and regulatory efforts in Washington, DC with both Congress and federal agencies and works to represent water professionals in our nation's capital. Before coming to WEF, Claudio worked with several other organizations on water systems and environmental regulation, including the Water Environment & Reuse Foundation (WE&RF), the American Association of Airport Executives (AAAE), and the U.S. Environmental Protection Agency (EPA) in Washington, DC. Claudio has a doctorate in jurisprudence (JD) from Pace University School of Law (White Plains, NY), a Master Degree in Public Policy (MPP) from George Mason University (Arlington, VA), and a BA from Concordia College (Bronxville, NY).



Paul Tukey, Author, *The Organic Lawn Care Manual*, and Chief Sustainability Officer, Glenstone Museum. Paul is credited with spearheading the movement against utilization of synthetic chemical pesticides on lawns. Paul Tukey is an internationally recognized and honored sustainability consultant, entrepreneur, author, publisher, lecturer, filmmaker, television host and producer. A dynamic leader of several high-profile organizations in both the for-profit and non-profit sectors, and a sought-after consultant and public speaker, he currently develops sustainability protocols for the Glenstone Foundation near Washington, DC.



Theodore “Tod” S. Wickersham, Jr., President of Beneficial Results LLC, focuses on assisting businesses and nonprofits improve their operations / profitability, build alliances, enhance collaboration, lead stakeholder groups, open markets, influence public policy, and achieve program objectives that also result in improved water and air quality, and reduced carbon dioxide, methane, nitrous oxide and diesel/toxics pollution. In preparation of the 2018 Farm Bill and with the new science on soil health, he is working at the intersection of Climate and Agriculture/land-use to benefit farmers, ranchers, the environment and health. He also actively collaborates with Biodiversity for a Livable Climate in Washington, DC and Maryland. www.beneficialresults.com



