

**Meeting Minutes**  
**TAG Meeting, Sargassum Recycling and Beach Quality**

Supported by the Hinkley Center for Solid and Hazardous Waste Management Meeting

Held Feb 20th, 2026, 11:00am to 1:00 pm (eastern)

Meeting Participation was through Virtual Connection (Zoom)

**Attendees:**

*Speakers*

Brittany Mc Intyre, University of Miami

Helena Solo-Gabriele, University of Miami

Jiayu Li, University of Miami

*Attendees via computer webinar (NOTE: **This meeting was open to the public**). Our intention is to alternate between TAG only versus open meetings to obtain the benefits from both formats.*

Alexandra Betancourt, Environmental Specialist, City of Miami Beach Environment and Sustainability Department

Aliza Karim, Miami Waterkeeper

Ana Zangroniz, UF/IFAS Extension and Florida Sea Grant, Miami-Dade County

Andres Tejada-Martinez, University of South Florida

Bernardo M. Bieler, P.E., Miami-Dade County Department of Environmental Resources Management (DERM)

Bill (William) Cooper, University of Florida

Chris Bumpus, Chief of Conservation, Miami-Dade County Parks, Recreation and Open Spaces

Christopher Perry, Florida Department of Environmental Protection – Waste Reduction and Recycling

Cynthia Silveira, Assistant Professor, Department of Biology, University of Miami

David Hill, Recycle Florida Today, Organics Recycling Committee

Dale Henderson,

Dan Kelly, CEO, ADAR Technologies

Daniel Benetti, Professor, University of Miami

Danielle Jimenez, Miami-Dade County Department of Environmental Resources Management (DERM)

Daphne Sugino, Lion Farms

David Hill, Organics Recycling Committee, Recycle Florida Today

Elizabeth Kelly, St. Lucie County

Elyrosa Estevez, City of Miami – Resilience and Public Works

Gloria Alejandra Antia, City of Miami Parks and Recreation Natural Areas Division

Guangliang Liu, Florida International University

Hannah Sackles, UF / Hinkley Center

Harold Gubnitsky, CEO, Clean Earth Innovations

Jean Bonhotal, Research Faculty, Cornell University

Joe Ullo, Hinkley Center for Solid and Hazardous Waste Management

John McMorris, Clean Earth Innovations

Jorge Suarez, RSMAES Marine Nutrition and Biotechnology Laboratory

Julio Camperio, RSMAES Marine Nutrition and Biotechnology Laboratory

Karen Moore, Florida Department of Environmental Protection

Kevin Gallagher, Miami-Dade County Department of Environmental Resources Management (DERM)

Kevin Huang, Environmental Engineering Student, University of Miami

Kimberly Moore, University of Florida, IFAS – Fort Lauderdale Research and Education Center  
 Lauren O’Connor, Florida Department of Environmental Protection  
 Ligia Collado-Vides, Visiting Professor, University of Miami, Macroalgae Expert  
 Libbie Oliver, Vermicomposting Researcher, Tortola, British Virgin Islands  
 Lorna Bucknor, Miami-Dade County Department of Environmental Resources Management (DERM)  
 Nancy Jackson, Chief Resilience Officer, Miami-Dade County Department of Environmental Resources Management (DERM)  
 Nandra Weeks, Geosyntec and Hinkley Center  
 Nohhyeon Kwak, Graduate Student, University of Miami  
 Patric Perez, PhD, Scientific Consultant, Atlanticx  
 Roland Samimy, PhD, Chief Resilience Officer, Village of Key Biscayne  
 Sam James, Professor Emeritus, Maharishi International University  
 Samir Elmir, Environmental Administrator, Department of Health, Miami-Dade County  
 Santiago Stebelski De Alba, Undergraduate Student, University of Miami  
 Scott Hawley, Department of Environment, Food, & Rural Affairs, United Kingdom  
 Shelly Krueger, University of Florida IFAS Extension / Florida Sea Grant  
 Sherry Carpenter, Executive Director, Keep Florida Beautiful; Hinkley Board Member  
 Stan Bedingfield, ADAR Technologies  
 Stephanie Rocchio  
 Tim Townsend, Director, Hinkley Center for Solid and Hazardous Waste Management  
 Timothy Ostemberg, City of Miami  
 Tristan Alvarez, Caribbean Agricultural Research and Development Institute (CARDI)  
 Valentina Caccia, Miami-Dade County Department of Environmental Resources Management (DERM)  
 Veronica Lopez  
 Vincent Encomio, Florida Sea Grant / UF IFAS Extension  
 Wilbur Mayorga, P.E., Chief, Environmental Monitoring and Restoration Division, Miami-Dade County Department of Environmental Resources Management (DERM)  
 Xianming Shi, Professor and Chair, Civil and Architectural Engineering, University of Miami  
 Yang Wang, Assistant Professor, University of Miami  
 Yong Cai, Professor, Florida International University

11:00 AM	1. Welcome, Introductions, and Background
	<p>Helena Solo-Gabriele welcomed participants and thanked them for joining the TAG meeting. Participants were asked to enter their names, affiliations, and interests in Sargassum research in the chat to facilitate introductions and discussion among the group.</p> <p>Tim Townsend briefly described the role of the Hinkley Center in supporting research on solid and hazardous waste management issues across the state of Florida and emphasized the importance of stakeholder participation through the TAG meetings.</p>
11:15 PM	<p>2. Summary of Completed Sargassum Recycling Studies – Solo-Gabriele</p> <p>A meeting participant raised concerns about arsenic concentrations in leachate and stormwater from composting facilities, noting that previous investigations in Miami-Dade County detected arsenic concentrations in</p>

	<p>runoff at levels significantly exceeding groundwater criteria. The participant emphasized the need to consider both human health exposure and groundwater contamination when evaluating composting options.</p> <p>A meeting participant asked whether Sargassum compost could be used as landfill daily cover. It was noted that landfill operations commonly use soil-like materials as daily cover and that Sargassum or Sargassum-based compost could potentially serve this purpose if operational stability requirements were met.</p> <p>Another meeting participant asked about the impact of integrating Sargassum directly into beach sand and whether arsenic could accumulate in the sand and increase exposure for beachgoers. Solo-Gabriele confirmed that studies showed integration can increase arsenic concentrations in beach sand compared with removal practices.</p> <p>A meeting participant asked whether the cost savings associated with reduced hauling due to composting accounted for the operational costs of running a composting facility. Solo-Gabriele explained that although composting involves operational costs, analyses suggest composting can still be less expensive than landfill disposal due to landfill tipping fees.</p> <p>A meeting participant suggested that long-term monitoring of arsenic accumulation along coastlines may be needed to evaluate legacy contamination and seasonal variations in arsenic concentrations within Sargassum.</p> <p>Another meeting participant noted that using compost as landfill cover may also provide the added benefit of reducing methane emissions from landfills by helping to sequester gases prior to final capping.</p> <p>A meeting participant asked whether vermicomposting could reduce arsenic concentrations in Sargassum compost. Researchers indicated that this approach is currently being explored, and preliminary discussions suggest that biological processes associated with worms may influence arsenic transformations.</p> <p>Participants also discussed ongoing vermicomposting work in the Caribbean using salt-tolerant worm species capable of processing Sargassum more effectively than traditional composting worms.</p>
11:40 PM	<p>3. Risks from Sargassum and Sargassum Recycling – Mc Intyre</p> <p>A meeting participant asked about the potential toxicity of volatilized arsenic species, noting that methylated arsenic compounds formed during volatilization can be highly toxic. Researchers acknowledged the</p>

	<p>concern and indicated that further studies are needed to identify the chemical forms of arsenic released to the atmosphere.</p> <p>A meeting participant asked whether microbial activity had been monitored in mesocosm experiments evaluating Sargassum decomposition. Researchers indicated that microbial community analysis had not been conducted in that study, although enterococci measurements suggested microbial growth associated with decomposing Sargassum.</p> <p>A meeting participant asked about the different chemical forms of arsenic and their relative toxicity. Researchers explained that arsenic toxicity varies depending on oxidation state, with certain reduced forms being more toxic than oxidized forms.</p> <p>A meeting participant asked whether the environmental risk analysis considered Sargassum biochar after incorporation into materials such as concrete. The presenter noted that biochar generally showed low leaching potential and that further research could explore the stability of arsenic when biochar is incorporated into construction materials.</p> <p>A meeting participant asked whether protective measures could be recommended for workers handling biochar or other Sargassum-derived products. The researchers noted that occupational protection strategies would likely be explored in future phases of the study once the risk assessment is finalized.</p> <p>Another participant asked how the health effects associated with arsine gas exposure were determined. The presenter clarified that the health impacts referenced were based on documented effects reported in scientific literature rather than observations from the current study.</p>
12:05 PM	<p>4. Farmer Study for Caribbean Countries – Mc Intyre</p> <p>Participants discussed the use of Sargassum by farmers across Caribbean islands and raised questions about the potential accumulation of metals in crops grown using Sargassum as a soil amendment.</p> <p>Discussion included differences in agricultural practices among farmers, with some farmers reporting benefits such as improved crop yields, while others expressed concerns about salt content, arsenic levels, or the labor required to transport Sargassum from beaches to farms.</p> <p>Participants also discussed the variability of soil and crop metal concentrations and the need for continued monitoring and risk assessment to determine whether Sargassum-derived amendments pose long-term food safety risks.</p>

12:30 PM	<p>5. NSF Project focused on Air Emissions and Microbial Communities - Li</p> <p>A meeting participant asked whether sulfur-containing gases such as carbonyl sulfide (COS) might be among the unidentified gases emitted during Sargassum decomposition.</p> <p>Another participant noted that dimethyl sulfide (DMS) and dimethyl disulfide (DMDS) are known to produce strong odors, while carbonyl sulfide typically does not produce strong odors. Researchers indicated that additional gas identification analyses are planned to confirm the presence of these compounds.</p>
12:50 PM	6. Additional questions and answers, wrap up. Open and free discussion.
1:00 PM	7. Adjourn

Questions: [hmsolo@miami.edu](mailto:hmsolo@miami.edu)