



Maryland Food System Resiliency Council

Environment & Production Subcommittee
December 8, 2022 1:00pm-2:00pm

1. Welcome
2. Group Discussion
 - a. Recap – The committee began considering climate issues, and how climate change relates to Maryland agriculture. In order to identify current efforts, the committee invited subject matter experts to report on efforts related to climate change and agriculture in the state of Maryland. Today’s invited speaker is Ernie Shea, who is the Vice President of the Harry R. Hughes Center for Agro-Ecology, co-chair of the Maryland Agriculture Vulnerability Assessment Project Leadership team, and has extensive background in agriculture.
 - b. Speaker Schedule:
 - i. January 5, 2023: Kurt Fuchs, Horizon Farm Credit Senior Vice President of External Affairs and Chip Bowling, Owner of Bowling Agri Service Inc.
 - ii. January 19, 2023: Rachael Lamb, Natural Carbon Sequestration Lead for Maryland Department of the Environment
 - c. Invited Speaker
 - i. Ernie Shea, President of Solutions from the Land
 1. The Hughes Center was established over 20 years ago, as a non-profit affiliated with University of Maryland, with the mission of providing leadership and helping the agriculture and conservation communities to come together around environmental improvements, and economically viable agricultural operations. We became acutely aware of the effect of climate change on Maryland, the agricultural industry, on capacity and ability to produce nutritious food years ago.



2. Based on data gathered from other States, the first step was determined to conduct a climate vulnerability assessment. Maryland agriculture is a significant, diverse industry, producing various commodities (e.g. poultry, grain, dairy, vegetables, etc.). The Maryland agriculture industry has had an increase in urban agriculture or peri-urban agriculture, rendering a 20.9 billion dollars industry, and 105,151 jobs.
3. Climate change impacts every area of agriculture (crops, soil, pests, livestock, pollinators, invasive species, etc.), thus the usual approach of incremental change over years is not effective in adaptation and building resiliency. The Climate smart agriculture model, managing agricultural landscapes to produce commodities, enable the ability to adapt and become resilient, and deliver mitigation services is appropriate for Maryland. We began examining other States' development of vulnerability assessments and adaptive management plans, to develop a Maryland State vulnerability assessment.
4. After examining several state reports on exploring how climate change is impacting agriculture, an action plan was produced (submitted in 2021 to the state legislator).
5. Next, during the scoping phase stakeholders (several agricultural organizations) were engaged in focus groups to discuss concerns. Some concerns indicated include :
 - a. Experiencing impacts on their operation currently
 - b. Conditions changing quickly and the need to prepare to adapt quickly
 - c. Drought followed by extensive rainy periods
 - d. Increased major weather events
 - e. Present of pest and wildlife pressure
6. Some needs determined by stakeholders include:
 - a. More research
 - b. Better production practices and conservations systems
 - c. Adaptable and resilient crops and tree species



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- d. Funding for a variety of mitigation strategies and technologies
 - e. Thinking beyond production or agriculture commodities, production ecosystem services.
- 7. For development of the Vulnerability Assessment, \$500,000 was awarded in Maryland supplemental budget, based on the initial work plan provided in 2021. Recognizing the need for a multi-stakeholder, cross boundary collaboration of subject matter experts, a leadership team was created of NGO partners. Next meeting we are onboarding five new members who are Maryland farmers, to provide information on their experience on the frontline with climate change impacts. The goal is to expand upon the initial assessment from ten years ago, to identify what we need to prepare for.
- 8. Deliverables go beyond the development of a report, but also include:
 - a. Development of recommendations on planning and future priorities for research
 - b. Changes in production and conservation practices
 - c. What market mechanism can be cap to address climate change and concurrently improve food security?
 - d. Science-based response recommendations
- 9. The next step is to issue an RFP for research proposals (across several universities/teams) to update and develop the vulnerability assessment.
- 10. Timeline: This is a two year project which includes:
 - a. Hiring a project coordinator who is based at the Hughes Center to maintain connections with key stakeholders. We will continue to invite conversations and support.
 - b. Report due June 30, 2024
- d. Open Discussion
 - i. Who were the participating members (e.g. various types of farmers or producers)? Agreed, there is a need to be inclusive,



and diversity is needed across the project, which is what was considered in the focus groups with regional diversity, urban and rural diversity, and different types of production systems (including a strong organic voice). Additionally we acknowledge not engaging minority and underserved producers, therefore we are collaborating with Eastern Shore to identify producers that have not been historically engaged in these conversations, but have needs and networks that can be contributed into the project. Climate change is going to affect every form of production.

- ii. Have any small scale producers indicated the need for regional aggregation infrastructure or assistance with creating indoor production capacity? Yes, and there is significant growth of vertical farming systems in Maryland, during our first phase of the focus group this topic was identified as an important part of the study. The study is beginning the second phase, the project coordinator's mission/job is to ensure that all types/forms of producers are connected.
- iii. Other identified considerations include:
 1. The role of vegetation is cooling, maintenance of the small water cycle as the climate warms
 2. There are 10-20 calories of fossil fuel per food produced, as we attempt to achieve net-zero targets it is going to be challenging to determine a lower fossil fuel dependence.
 3. Diesel fuel supply disruptions impact on the supply chain
 4. We need to involve big box stores in conversations regarding distribution of food, and their role in re-localizing agriculture.
- iv. Clean energy production, and reduction of emissions are very important going forward. Putting the producer in the center of the discussion to understand their system and needs, the start is typically with their challenges, leading to adaptation, then resilience practices and mitigation co-benefits. This can only happen if it works for the producers, which is why the project is producer focused.



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- v. Other than producers who else is being considered within the project stakeholders (e.g. farmer worker community, or communities impacted by living near agriculture)? Agreed, we will continue to expand outreach going forward, some of these considerations are embedded in the project leadership team, and the Hughes Center board of directors.
 - vi. Any suggestion can be sent to Nancy Nunn at nnunn@umd.edu, and workshops will be shared.
 - vii. The Hughes Center conducts its own RFP process each year, this year a major topic is climate change impact on agriculture, proposals are under review and awards will be determined in January
 - viii. Biodiversity for a Livable Climate series of webinars are launched [here](#).
 - ix. Soil Health Advisory Committee Recommendation Update: Healthy Soil Competitive Fund (new program focused on soil health), application process will be January 3rd - March 3rd (the link will be share once available)
3. Next steps and adjourn