New Jersey Agricultural Climate Summit Report

Letter from the Planning Committee

It is with much gratitude to those who volunteered their time to this process that we present this report.

On April 10, 2024, Duke Farms, a center for the Doris Duke Foundation, in partnership with the New Jersey Agricultural Experiment Station, the New Jersey Climate Change Alliance, and the New Jersey Farm Bureau, convened a diverse group of over 60 stakeholders to explore the potential for New Jersey's natural and working agricultural lands to accelerate climate change mitigation (including emissions reduction, adaptation and resilience). The day-long Climate Summit fostered dynamic discussions on the challenges and opportunities in leveraging these lands to enhance ecosystem services, support farm viability, and contribute to the state's climate goals. Participants engaged in panel discussions, keynote presentations, and interactive breakout sessions, sharing experiences and perspectives to lay the groundwork for future collaboration and policy development in advancing nature-based climate solutions across New Jersey's agricultural landscape.

Our goal in bringing this group of New Jersey farmers, non-profit organizations, researchers and influential leaders together was to **identify common ground** and **focus on solutions**. We

believe more unites us than divides us when it comes to the stewardship of New Jersey's natural and working lands.

In preparation for the gathering we shared a recommended reading list covering topics related to the presentations and panel discussions.

The day started with a grounding from Professor Julie Lockwood in how science-based, land-based, and farm-based solutions are all complementary partners in our efforts to address climate change. There are remarkable on-the-ground innovations happening right now, however there needs to be substantial investment in documenting which of these work well and under what circumstances; and then scaling these innovations up for widespread adoption. The panels, presentations, and conversations that followed this explored the details of how we might find and move toward solutions.

We were joined by New Jersey Secretary of Agriculture Ed Wengryn who expressed appreciation and support for our powerhouse gathering of diverse voices and solutions-oriented approach.

We also broke into groups to explore questions around themes that are critical to this work:

1. Aligning Visions for a Sustainable Future
2. Immediate Actions for Climate Resilience and Farm Viability
3. Leveraging Local, County, and State Policy and Incentives
4. Collaborative Opportunities.

In this report, you'll see reflections from those robust dialogues captured in the top takeaways suggestions reflected in the possible next steps section, and a transcription of exact ideas raised in breakout sessions. The summit agenda and presentations can be found in the Appendix.

As the planning committee, our aim was to foster reconnection, facilitate the exchange of ideas, and identify pathways forward. While we did not set out to build immediate consensus, we believe the Climate Summit laid the groundwork for ongoing collaboration and dialogue. We trust that stakeholders will engage where they see themselves playing a role in advancing our shared goals. Executing action steps is the collective work of this entire community, and we encourage everyone to review the proposed next steps contained within this document as a reflection of the fruitful conversations that took place during the event.

Signed,

Planning Committee:

Jeff Everett, Executive Director, Garden State Preservation Trust

Russell Furnari, Environmental Policy Advisor

Amy Hansen, Policy Director, New Jersey Conservation Foundation

Marjorie Kaplan, Senior Associate Director, Rutgers Climate and Energy Institute, Co-facilitator, New Jersey Climate Change Alliance, Co-director, New Jersey Climate Change Resource Center

Ashley Kerr, Research Associate, New Jersey Farm Bureau

Stephanie Murphy, Director, Soils Testing Laboratory, New Jersey Agricultural Experiment Station at Rutgers University

Meredith Taylor, Researcher, New Jersey Agricultural Experiment Station, Office of Urban Extension and Engagement at Rutgers University

Margaret Waldock, Executive Director, Duke Farms, Doris Duke Foundation

Top Takeaways from Presentations and Panel Discussions

This section is a high-level summary of the points made by presenters and the robust exchanges during panel discussion.

1. Climate change is and will continue to make farming more difficult for New Jersey farmers.

Panelist discussions among farmers, organization leaders and state and federal agency staff all echoed this point: climate change is dramatically and rapidly altering the landscape for New Jersey's farmers.

High-intensity rain events, flooding, a lack of snow cover, and an increasing number of days over 90 degrees are making an already challenging industry even harder. Winter frost is not as deep leading to increased pest issues and reduced snow cover means rain runoff is now a year-round issue. Traditional pressures on farmers remain the same (input costs, harvest and yield rates, profit margins) but extreme weather and climate make everything more volatile and risks higher.

Existing infrastructure failures become farm problems. For example, ditches that were built for half inch rainstorms overflow during storms that drop two to three inches at a time. Field entrances flooded during planting and harvest compound an already stressful time and flooded roads create barriers for getting products to farmer’s markets all over the state.

2. Taking a whole farm approach can increase resilience, profitability, and biodiversity while driving down carbon emissions.

Farmlands have a critical role to play in mitigating the worst impacts of climate change, and strategies to address these impacts must work in tandem with efforts to combat biodiversity loss and ecosystems impacts. During the Climate Summit, participants emphasized the following key points:

- Land not in production and production-based solutions are needed to both reduce emissions going into the atmosphere as well as help with removing and storing carbon that is already present.
- In addition to the benefits that agricultural soils can play in carbon sequestration, most farmlands in New Jersey also contain woodlands, wetlands, or both which play a role in sequestering carbon, as well as resilience to climate change.
- Dr. Julie Lockwood noted that croplands — particular their healthy soils — are on par with temperate forests when it comes to carbon storage. Better yet, wetlands, which can be found on many farms in New Jersey, store more carbon than any other ecosystem when they are healthy.
- There is an opportunity to incentivize the preservation and restoration of wetlands on farms as a way to increase carbon sequestration in New Jersey agriculture.
- As noted in Dr. Marjorie Kaplan's presentation, farm-wide ecosystem services can have a marketable value.
- We need to think and act at a watershed level toward solutions as opposed to arbitrary boundaries.
- Jeff Tober, Farmer, Rancocas Creek Farm, discussed the flooding challenges his farm faced. He worked with the State Agriculture Development Committee (SADC) and the Watershed Institute to incorporate trees into one of his growing areas in an area that was historically wet but was tiled and drained for agricultural use over the years, leading to subsequent flooding problems. The area handles water better now, although in severe rain events, some challenges remain.
- Farmland preservation programs should include compensation for conservation practices.
- Farmers need a seat at the table and the ability to impact change, and we must be purposeful in ensuring representation of diverse and specific needs from various farmers.
- Supporting urban farms is important for both climate and social equity. In addition to providing access to local food sources, green spaces help address the heat-island effect and increase home values, which may be the only way many people are able to build generational wealth. Meredith Taylor encouraged a more formal structure for urban agriculture.

The discussions at the Climate Summit underscored the need for a holistic approach to farmland conservation and climate mitigation, recognizing the interconnectedness of ecosystems, communities, and the agricultural landscape. By working together and

implementing these strategies, New Jersey can leverage its farmlands to build a more resilient and sustainable future in the face of climate change.

3. Improving soil health has multi-factor benefits for both producers and the planet.

There are myriad opportunities when it comes to soil health. Focusing on soil health in the coming years could be an easy win, demonstrating the impact of this work on carbon sequestration and increased farmland productivity.

We learned that Chickadee Creek Farm has improved their soil from 2.3% to 7% organic matter. We also heard that 7% is the tipping point where we begin to have problems balancing the pH and nutrient availability--and in some locations 5% might be too high. We need to prioritize soil health both as a carbon sequestration and water retention strategy.

As Dr. Marjorie Kaplan shared in her presentation there are multiple co-benefits of increasing soil organic carbon namely:

- Fertility & nutrient-holding capacity
- Water-holding capacity
- Soil structure development with implications for infiltration/runoff & erosion
- Biological diversity
- Resilience/Risk avoidance
- Water quality, air quality
- Waste reduction

4. Streamlining Processes and Enhancing Collaboration are essential to Maximizing Existing Resources.

While additional funding would undoubtedly be impactful, the Climate Summit participants emphasized that the primary challenge lies not in the availability of resources but in the processes and systems that connect farmers to existing services and programs.

Participants identified several areas where innovation and collaboration could significantly improve access to existing funds and programs:

- Streamlining bureaucratic processes to make it easier for farmers to navigate and access available resources.
- Increasing technical support and staffing to assist farmers in understanding and applying for relevant programs.
- Developing better scientific tools and data to inform decision-making and resource allocation.
- Addressing the long-term economic uncertainties faced by small farmers in areas facing development pressures, which often lead to a short-term planning horizon and potential exit from the industry.

By focusing on these key areas and fostering collaboration among stakeholders, New Jersey can more effectively leverage existing resources to support farmers in adopting sustainable practices and building resilience in the face of climate change.

5. There is a strong desire for regular peer-to-peer learning pathways.

One of the most resounding themes that emerged from the Climate Summit was the strong desire for regular peer-to-peer learning pathways. Participants expressed a clear need for additional gathering opportunities, recognizing the value of sharing experiences, best practices, and innovative solutions among their peers.
To accommodate the diverse preferences and schedules of stakeholders, a variety of formats were suggested:

- In-person meetings: Some participants emphasized the importance of face-to-face interactions for building relationships and facilitating deeper discussions.
- Virtual meetings: Others noted that platforms like Zoom would be more conducive to their schedules, allowing for greater flexibility and accessibility.
- Hybrid approach: To bridge the gap between these preferences, one proposed solution was to convene monthly meetings that alternate between in-person and virtual formats, ensuring that all voices have the opportunity to participate.
- In addition to regular gatherings, multiple suggestions were made for the creation of a digital platform that would serve as a hub for ongoing knowledge sharing and collaboration. This platform would enable farmers and other stakeholders to ask and answer day-to-day questions, share resilience practices, and tap into the collective wisdom of their peers.

By investing in these peer-to-peer learning pathways and knowledge-sharing platforms, New Jersey can cultivate a vibrant and supportive community of farmers, researchers, and other stakeholders who are committed to building a more resilient and sustainable agricultural

landscape in the face of climate change. These initiatives will not only facilitate the exchange of valuable insights and innovations but also foster a sense of solidarity and shared purpose among those working to address the complex challenges facing New Jersey's farms and ecosystems.

Farm-to-Table Lunch

The farm-to-table lunch, featuring the bounty of New Jersey growers, played a crucial role in the discussions surrounding climate change and farm viability during the summit, showcasing the importance of local agriculture and reducing the carbon footprint associated with food transportation. Chef Lauren Owens' carefully crafted menu, which included ingredients from Castle Valley Mill, Duke Farms' permaculture garden, Cotton Cattle Company, Mill Creek, Daegle Brothers, and the Able Baker, demonstrated the abundance and diversity of the Garden State's early spring harvest.

This lunch served as a powerful reminder that our food choices have a direct impact on the environment and the viability of local farms. Prioritizing the integration of locally sourced meals in future meetings can reinforce our commitment to sustainable practices and support the local agricultural community.

From the Chesapeake Bay to the Delaware Bay: Maryland’s Rural Legacy Program as a Blueprint for New Jersey's Natural and Working Lands

Remarks by The Honorable Parris Glendening, Former Governor of Maryland

Maryland and New Jersey share many similarities. Both states have deep agricultural roots, face increasing urbanization and added volatility caused by climate change. The Honorable Parris Glendening, former Governor of Maryland, reflected on his experiences in developing Maryland’s Rural Legacy Program as a case study for New Jersey to draw upon.

Governor Glendening had a clear message–a siloed approach to climate and conservation policy solutions is inefficient and will be unsuccessful. In a home rule state like New Jersey we run the risk of having success in small pockets when the landscape calls for a broader approach. Solutions should be developed with a multi-departmental vision with clear direction from leadership. Partnering agencies should have a clear understanding of what each department’s goals are and how to remove barriers for each other.

Specifically he discussed two examples from Maryland to consider in New Jersey:

- Create investment zones (what Maryland calls Priority Funding Areas) to direct density in already high population areas with existing infrastructure
- Coordinated land use planning, with clear goals set by the state, is as important as Open Space Preservation.

Possible Next Steps to Explore

This section is a synthesis of common themes that were expressed in the break out groups (notes linked below) and heard in panel discussions.

1. Convene Peer-to-Peer Learning Networks

Convene a peer-to-peer learning network with regular meetings, both in-person and online. Some questions this group could center meetings around could include:

- How can we simplify the process and bridge the gap between agency programs, available assistance and support, and small farmers?
- How can we address the myriad issues raised by increased extreme water events/lack of snow/increased rain in winter?
- Create incentives to preserve and/or restore wetlands or woodlands on working farms.
- How do we create and implement systems to support soil health (cost-sharing on conservation tillage and precision agriculture equipment and paying for conservation plans and more Technical Service Providers to develop them)
- How do we create better conditions for tenant farmers i.e. reach and communicate with the landowner about the importance of all of this work and the benefit to their land to promote longer term tenancy.
- How do we incentivize whole farm conservation practices including land not in production.

The creation of a digital resource, such as a ListServ or some other digital platform, could facilitate best practice sharing and questions on a day-to-day level.

2. Convene Resource Working Group

Dedicated to connecting New Jersey farmers to existing resources and ensuring that resources are fairly and equitably distributed to people on the ground.

- More outreach for current EQIP/CSP
    - Find a solution to the 18 month gap in grant funding
- Effective path for input to how SADC and Statewide Formula Value (SFV) should work
- IRA implementation support needed

- Capitalize on the SADC Statewide Formula Value
- Fund and disseminate grants from existing SADC Farm Stewardship Program
- Groups to work with in these efforts:
    - NJ Conservation Blueprint
    - State Plan Update Process
    - Soil Health strategic planning process
    - Groups in NYS/CA on soil health
- Possible funding sources:
    - NJDA Grants
    - SADC Cost Share
    - Urban and Community Forestry program
    - Green Communities program
    - RGGI funding now enabling tree planting in urban areas
    - Highlands/Pinelands

3. Convene Impact and Partnership Working Group

Dedicated to securing new tools and resources needed to effectively push this work forward.

- Find the right partners and resources to develop a tool to help small farmers make climate and biodiversity decisions like plastic vs organic mulch.
    - Similar to the tool that helps plan for soil erosion and loss based on different scenarios.
- Help farmers preserve existing wetlands on their properties. SADC is adopting a state-wide formula value to determine easement values. How do we get input from the broader ag community into this process? We have less than a year.
- Get involved in County Boards and bring new people.
- Fund existing farm stewardship programs and disseminate funds through programs.
- Explore partnerships that help market local products and educate consumers
- Seek solutions for animal processing for small farmers with a local customer base.
- Explore partnerships that have money right now (ex: NOFA-NJ strategic partnerships with USDA) and ways to get those funds to farmers.
- Explore ways to get more IRA money to people on the ground.
- Revise cost sharing programs.
- Coordinate existing tech programs.
- Private carbon credit programs
- Thoughtful language and flexible funding in county and municipal open space funds
- Key NGO partners:
    - Outdoor Equity Alliance
    - Newark Science(?) and Sustainability
    - Keep It Green Coalition
    - NJ Forestry Association
    - NOFA
    - Soil & Water Conservation Society

        - Foodshed Alliance
        - Research Institute (Rodale)
        - Watershed Institute
        - North Jersey RC&D
        - City Green
        - First organic and regenerative Board soon in NJ Department of Agriculture
        - North NJ RC&D
        - New Jersey Conservation Foundation
        - NOFA NJ
            - Watershed groups
            - RC&D
            - Audubon
- Academic Partners
    - NJAES
    - Rutgers AES
    - RU Extension
    - RU Climate Institute
    - Rowan University GEOLAB
- Government Agency Partners
    - DEP
    - DEP Forest Service
    - DEP Fish & Wildlife
    - Garden State Preservation Trust
    - Dept of Ag
    - Ag Convention
    - Delegates to Ag Convention
    - NJ State Planning Commission
    - Soil Conservation Districts
- County Policy Partners
    - County Board of Agriculture
    - Planning and zoning

Appendix

Agenda with links to presentation slides

Break out group questions and sticky notes

New Jersey Agricultural Climate Summit: Exploring Nature-Based Climate Solutions on New Jersey's Natural and Working Lands

Wednesday April 10th, 2024 at Duke Farms – Presentations and Panels

The Nature Positive Promise of New Jersey's Natural and Working Agricultural Landscape

- **Julie Lockwood,** Professor of Ecology, Evolution and Natural Resources, Rutgers University and Interim Director, Rutgers Climate and Energy Institute.

Panel: **Cultivating Resilience**

- Moderated by: **Margaret Waldock,** Executive Director, Duke Farms
- Featuring: **Brian Schilling,** Director, Rutgers Cooperative Extension
- **Pete Furey,** Executive Director, New Jersey Farm Bureau
- **Chris Miller,** Acting National Coordinator, USDA Climate Hubs.

Exploring Opportunities to Increase Ecosystem Service Values in New Jersey Agriculture

- Moderated by: **Jim Waltman,** Executive Director, Watershed Institute
- with **Marjorie Kaplan,** Associate Director, Rutgers Climate and Energy Institute (Click here for Slides)
- and **Jeff Everett ,** Executive Director, Garden State Preservation Trust (Click here for Slides)

Remarks by Ed Wengryn, New Jersey Secretary of Agriculture

Keynote: "From the Chesapeake Bay to the Delaware Bay: Maryland's Rural Legacy Program as a Blueprint for New Jersey's Natural and Working Lands"

- **Jeff Everett** introduction (Click here for slides)
  - **Governor Parris Glendening**

Diverse Perspectives on Key Strategies to Advance Natural Climate Solutions on Natural and Working Agricultural Lands

- Moderated by: **Amy Hansen,** New Jersey Conservation Foundation
- Featuring: **Devin Cornia,** Policy Director, Northeast Organic Farming Association of New Jersey
- **Bryce Cotton,** River Valley Farm
- **Jeff Tober,** Rancocas Creek Farm
- **Jess Niederer,** Chickadee Creek Farm
- **Meredith Taylor**, Sr. Program Administrator, Office of Urban Extension, New Jersey Agricultural Experiment Station

Break Out Group Sticky Notes

These are transcribed based on the photo images shared in this link.

Group 1 Aligning Visions for a Sustainable Future: What are specific goals for enhancing climate resilience, biodiversity, and ecosystem services on New Jersey's natural and working agricultural lands that can unite stakeholders, from farmers to conservationists, policy makers and researchers?

- Peer to peer learning
- Sharing successes and challenges in a field forum
- Promoting Ag viability and sustainability are not enemies
- Communicate the value of programs in a way that's accessible
- Look at ecosystem plans as a whole (not siloed)
- Develop a state ag lease program
- Create an urban ag leasing program
- Form a state agency/statewide or with reps from each area of expertise and region of the state to address the next steps of policy change.
- Increase the active management of privately and publicly owned forested lands throughout the state.
- Active wildlife management
- Wildlife corridors
- Increase ecological function of marginal farmland

- Habitat restoration or reforestation of natural areas or preserved farmland
- Working lands for wildlife +
- Adopt USDA agroforestry practices ++
- Double duty lands for storm-water management and carbon sequestration
- Proforestation

Group 2 Immediate Actions for Climate Resilience and Farm Viability: What are quick wins that can be implemented/acted upon within the next 1 - 2 years to enhance farm viability, climate resilience, and ecosystem services?

- Continue these group discussions +
- Develop sharing network for resilience practices
- IRA implementation
- Capitalize on the SADC SFV
- Get involved in Country Boards and bring new people +
- Tap into County agents to reach stakeholders
- Sponsorship for climate resilience workshops for urban, suburban and rural farms
- Fund resilience strategy implementation
- Effective path for input to how SADC and SFV should work
- Incentivize climate policies
- Set ag/climate performance goals with timeframes
- If a farm engages with NRCS and develops a conservation plan, Then offer cost share for biz plan development.
- NJDOA needs to use funding from new sustainable ag initiative to fund language translation programs.
- More bilingual technical service providers
- Pay farmers to transition to adaptive grazing
- Incentivize Farm Bureau to help organic farmers
- NOFA NJ to fund & manage an equipment loan program and insurance coverage for the program.
- Fund low or no cost bridge loans for farm grants
- Fund and disseminate grants from existing SADC Farm Stewardship Program
- Invest in TSPs and CAPS to increase access to federal $$
- Revise or coordinate cost share programs between fed and state agencies+
- Cooperative Extension training priority
- NJAES staffing increase
- NJDEP/NJDA to fund nonprofit programs
- Create a policy “stick” to ensure organic baseline and measuring those successes

- More outreach for current EQIP/CSP
- Require admin cost limits on IRA spending so more goes to cost share payments
- Soil Health
    - Assess history of land use and disturbance to design a plan for a quick return to health
    - No till with chem burn is not a viable solution
    - Pay farmers to stop using synthetic chemicals
    - Pay for more TSP
    - Pay farmers to transition to organic grain farming
- Plant Trees
    - Backup power generator
    - Establish solar
    - Establish meadows for pollinators

Group 3 Leveraging local, county, and state Policy and Incentives: What local, state, federal, policy, and public and private funding opportunities exist to support natural climate solutions?

Policy

County Policy:

- County Board of Ag–better communication overall
- Planning and zoning

State Policy

- NJ Urban and Community Forestry Act
- Develop explicit urban environmental and climate policy to incentivize green cities
- Add environmental incentives for new development in UEZs, School authorities, and redevelopment districts
- NJDEP Stormwater
- NJ Farmland Assessment Program (including Forest Stewardship Program)
- Highlands Council

Federal Policy

- Urban conservation as redevelopment
- Farm Bill

Changes Needed:

- GSPT rules and regs promoting funded programs to support natural climate solutions
- Move Deer Harvest to IPM System including lethal and meat processing support
- Transfer R.O.W. to agro lease system

- Urban Street Trees to GSPT
- Community Colleges for workforce development in farming aligned areas +
- Zoning for urban farms
- Establish state-wide bulk purchasing of inputs
- Rapid Acceleration of precision Ag (Example Warren Community College)
- Bring stormwater management practices from the built environment to farmland as is suitable.

Funding

Nonprofit Partners

- NOFA NJ
    - Watershed groups
    - RC&D
    - Audubon
- First organic and regenerative Board soon
- North NJ RC&D
- Private carbon credit programs
- Thoughtful language and flexible funding in county and municipal open space funds

State

- NJDA Grants
- SADC Cost Share
- Urban and Community Forestry program
- Green Communities program
- RGGI funding now enabling tree planting in urban areas
- Highlands/Pinelands
- TDR Easement Programs

Federal

- NRCS+++++

Change Needed

- GSPT ratios need to reflect natural climate solutions
- Continued support for preserved farms (i.e. second owners)
- Workforce development
- Direct non-reimbursed grants (meaning don’t ask farmers to put money out first)

Group 4 Collaborative Opportunities: What existing partnerships and networks can be leveraged to advance the goals of climate resilience, farm viability, and enhancement of ecosystem services?

Farmer Groups

- Zoom Discussion Groups
- County Ag board engagement ++
- State Ag development committee
- Farm Bureau
- Farm Commodity Groups

Harness Current Groups Collaborating on this:

- NJ Conservation Blueprint
- State Plan Update Process
- Soil Health strategic planning process
- Groups in NYS/CA on soil health

County and Local

- County Planners
- Coop Extension
- County Ag Board

NGO Partners

- Outdoor Equity Alliance
- Newark Science and Sustainability
- Keep It Green Coalition
- NJ Forestry Association
- NOFA
- Soil & Water Conservation Society
- Foodshed Alliance
- Research Institute (Rodale)
- Water Institute
- North Jersey RC&D
- City Green
- New Jersey Conservation Foundation

Private Partners/Industry

- Private Industry Parties (?)
- Members of NGO
- Possible to consolidate Ag orgs?

How to Leverage

- Pay farmers to train new farmers in farmland conservation

- Create partnerships between rural and urban farmers
- Pay TSPs directly on behalf of farms
-

Public Private Partnerships

- Enlist Services of nonag reps
- NRCS North Jersey
- Aerial seeding

Create New Partnerships

- SADC + NRCS
- NOFA + Food shed
- RC&D+ RU+Farm Bureau
- Monthly Climate
- Acropolis Coalition (create a big thinkers group)

Academic Partners

- NJAES
- Rutgers AES
- RU Extension +
- RU Climate Institute

Government Agency Partners

- DEP
- DEP Forest Service
- DEP Fish & Wildlife
- Garden State Preservation Trust
- Dept of Ag +
- Ag Convention
- Delegates to Ag Convention
- NJ State Planning Commission
- Soil Conservation Districts

TSP Funding & Training via government (this might be a heading?)

- NJDA/NJDEP joint funding to nonprofit initiatives
- NRCS
- Soil Conservation Districts
- Center for Ag Conservation Technical Training Assistance (Penn State Ext)
- NJDA need marketing/business planning incentives