

State Technical Committee



Natural Resources Conservation Service

New Jersey State Technical Committee
220 Davidson Avenue 4th Floor, Somerset, NJ 08873

Meeting Date: Tuesday, December 1, 2021

Meeting Location: Microsoft TEAMS

Evan Madlinger opened the Microsoft TEAMS at 9:00 am and turned it over to NRCS State Conservationist Julie Hawkins. She welcomed everyone and thanked both employees and partners for their participation in the State Technical Committee.

Those present included:

Alexandra Nseir
Audrey Moore Bill
Angstadt Brian
Schilling Bridgett
Hilshey Brittany
Dobrzynski Bruce
Eklund Charlize
Chris Miller Cindy
Roberts Danielle
Bara David Clapp
Diane Gunson
Doreen Beruck
Edwin Muniz
Elizabeth Freiday
Elizabeth McShane
Evan Madlinger
Fran DeFiccio

Gail Bartok Hilary
Trotman Isaac
Bearg Janis Rega
Jim Simon
John Parke
Jon Klischies
Julie Hawkins
Kaitlin Farbotnik
Karen Rutberg
Kathy Hale Kelly
Steimle Kris
Schantz Kristen
Meistrell Kristin
Adams Laura
Tessieri Lauren
Finnegan Lauren
Lapczynski Liz
Matseur

Liz Thompson Marc
Virgilio Margaret
Gannon Maryann
Tancredi Michael
Flood Michael Kent
Michelle Pedano
Mitchell Mickley
Nagisa Manabe
Nancy Paolini
Nicholas Saumweber
Nicole Ciccaglione
Robert Nyman Sarah
Fenwick Sharon
Petzinger Tairi Colon
Tara Walker
Trish Long
Virginia Lamb



9:05 Welcome, Introductions, New Items - Julie Hawkins, NRCS

Julie welcomed all in attendance and thanked the partners that were on the call for their role in providing guidance suggestions and ideas for NRCS. She said these are important as we make decisions both technically and programmatically for our conservation delivery. Julie shared recent news updates. The new infrastructure bill was passed on November 15th, 2021, and \$918 million has been allocated for NRCS for three programs (\$500 million for watershed and floodplain operations, \$118 million for watershed rehabilitation, and \$300 million for emergency watershed protection). The agency is required to develop a 90-day spending plan to identify priorities for the program. NJ will be receiving additional funds to prepare for damages to waterways and watersheds, resulting from national natural disasters like Hurricane Ida.

Since the last meeting, the three agency priorities were updated and they are now referred to as the "Five Foundational Priorities." They are: Equity (that is to ensure equity in the delivery and implementation of all NRCS programs and services), Climate Smart Agriculture and Forestry (to increase our assistance into support producers and building resiliency across their operations), Urban Agriculture, Diverse Workforce, and Innovative Relationships. Last year the agency shared a list of conservation practices specifically listed as priority practices. This year that list was updated about a month ago to include 33 conservation practices and 81 enhancements and the Conservation Stewardship Program (CSP).

Two major points that are important to us are urban agriculture and how to build from the important work that went into the soils team. Success proudly starts with the soil. The agency has a national leadership team, which encompasses all the agency's leadership, including senior leaders and the secretary of Agriculture and Under Secretary. Recently, three states were asked to speak on agency priorities. Julie was proud to say that NJ was asked to speak specifically our urban agriculture and community gardens work. Julie said how honored she was that Edwin Muniz, NJ State Soil Scientist, would be delivering a national conservation webinar for the agency, to share what he (and the Soils Team) have been doing for several years. There are just three other pilots across the country. Edwin and the Soils Team have been at the forefront of leading the agency in this important work and NJ is delighted to be showcased as a national example for other NRCS states to follow.

NJ was fortunate enough to begin work with Newark's Urban AG Cooperative through RCPP (Regional Conservation Partnership Program) to help deliver additional technical and financial assistance to urban farms and community gardens. RCPP is a great program for NJ to work with those types of clients. First, it does not have requirements for irrigation history, something the EQIP program does. Second, it doesn't have propping history requirements like the CSP Program (which both of those things can be barriers for urban ag clients). Lastly, the regulations speak specifically for NRCS to be able to develop interim conservation practices and those are practices that can be put in our technical guide. We can test for several years and determine whether it's going to be a permanent practice in our technical guide.

Lastly, Julie wanted to share what is being touted as the "Build Back Better" effort with the administration and some of the funding behind it. The 2018 Farm Bill Funding covered FY19 - FY23. CSP was allocated \$3.975 billion, EQIP was allocated \$9.175 billion, and RCPP was allocated \$1.50 billion. The "Build Back Better" effort will be allocating \$4.1 billion to CSP, \$9.0 billion for EQIP, and a huge jump to \$7.50 billion for RCPP. This level of funding to the agency is transformational and will have a lot of impact.

9:17 Background/Introduction and June Meeting Minutes review and acceptance – Evan Madlinger, NRCS

Evan wanted to introduce himself as the Acting State Resources Conservationist for Christine Hall as she has taken a long detail at Headquarters working with our Chief. Evan started as an intern and has worked as both Soil Conservationist and Biologist. He then went on to thank all the partners and employees for their continuing efforts and support. Evan shared his screen showing the previous STC Minutes and let the attendees know that the minutes were sent out before this meeting. He asked for any comments or corrections to the June 2021 Meeting. Sharon Petzinger indicated that on page 30, in the first sentence, the word local should be focal.

9:21 2021 Program Year in Review – Gail Bartok, NRCS

Gail gave an overview of FY21, beginning with easements. Through ACEP-ALE, NRCS contracted two parcels (total of 68 acres) with \$849,200 in financial assistance; RCPP (Agland Reserve Easement through NJ Conservation Program) contracted two parcels (total of 111 acres) with \$729,000 in financial assistance. Closed easements include seven Agland easements (308 acres), four wetland restorations (three WRE for 78 acres and one RCPP-WRE for 13 acres), and four restored easements (two WRE for 17 acres and two WRP for 124

acres respectively). After an easement has closed there is a restoration agreement in place where NRCS can take AG land/forest land and turn them back into wildlife habitats.

Next, Gail went over the financial assistance programs. There are three main programs: Agricultural Management Assistance (AMA), Conservational Stewardship Program (CSP), and Environmental Quality Incentives Program (EQIP). AMA received \$371,758 of financial assistance for 27 contracts. In comparison, in FY20 there were five contracts for \$44,000. CSP received \$638,756 for 21 contracts (FY20 received \$80,000 for five contracts); EQIP received \$6.653 million of financial assistance for 242 contracts (FY20 received \$5.4 million).

Moving along with the presentation, Gail highlighted individual fund pools. First, the AMA biggest spenders included Cropland (\$12,300 in financial assistance for two contracts), High Tunnel (\$215,964 in financial assistance for 14 contracts), and RMA - High Tunnel (\$143,495 in financial assistance for 11 contracts).

The RMA - High Tunnel utilized extra money received from Headquarters. Next, CSP's biggest spenders included: Agriculture Lands – General (\$365,560 in assistance for 14 contracts), Agriculture Land – Beginning Farmers (\$29,585 in assistance for two contracts), Non-Industrial Private Forestlands – General (\$197,842 in assistance for one contract) and Non-Industrial Private Forestlands – Beginning Farmers (\$45,770 in assistance for four contracts). All CSP eligible applications were funded this fiscal year.

As a side note for more information, the RCPP biggest spenders included: Black River Greenway (\$45,347 in assistance for two contracts), Delaware River Watershed (\$164,681 in assistance for three contracts), and Whole Farm Systems Conservation Trial (\$16,010 in assistance for three contracts).

Finally, EQIP Conservation Activity Plans (CAPS) biggest spenders included: Comprehensive Nutrient Management Plan (CNMP) (\$105,703 for 14 contracts), Nutrient Management Plans (NMP) (\$8,432 in assistance for two contracts), and Forestry Management Plans (FMP) (\$119,507 in assistance for 83 contracts). Initiatives are broken down into two categories: National and State.

Within EQIP, there are four big spenders on the National Initiatives list: Organic (\$135,880 in financial assistance for 10 contracts), Energy (\$226,974 in assistance for four contracts), Golden-Winged Warbler (\$68,256 for seven contracts), and National Water Quality Initiative Upper Salem and Upper Cohansey (\$164,165 in assistance for eight contracts). We do receive additional funding for these National Initiatives like the Golden-Winged Warbler.

On the flip side, the State Initiative big spenders included: Aquaculture (with \$259,266 in financial assistance for four contracts), Bobwhite Quail (\$56,766 in assistance for eight contracts), and HEL (\$4,878 in assistance for two contracts), High Tunnel (\$494,237 in assistance for two contracts), Soil Health (\$158,548 in assistance for four contracts), Beginning Farmer (\$25,976 in assistance for two contracts), and Socially Disadvantaged (\$165,108 for three contracts).

It is important to note that these figures are specifically for these fund pools. Beginning Farmer received \$25,976 in EQIP assistance but overall combined beginning farmers have been funded with \$3.196 million on over 85 contracts. The same can be said for socially disadvantaged farmers where in total they have been funded with \$107,169 for over 13 contracts.

Within our State Initiatives, we also have subaccounts in EQIP that are broken into locations. In the north, Local Work Groups received \$525,949 for eight contracts, Forestry received \$18,597 for seven contracts, Wildlife received \$141,711 for 10 contracts, and Livestock received \$1.595 million in assistance for 20 contracts. In Central Jersey, Local Work Groups received \$289,965 for seven contracts, Forestry/Wildlife received \$136,845 for four contracts, and Livestock received \$45,521 for two contracts. In the south, Local Work Groups received \$1.602 million in financial assistance for 23 contracts, Forestry/Wildlife received \$25,204 for six contracts, and Livestock received \$0 for 0 contracts.

Lastly, Gail presented the Top 10 lists - Top 10 by Planned amount and Top 10 by Dollar amount.

Top 10 planned amount:

- | | |
|-------------------------------------|--------------------------------|
| 1. Cover Crop | 6. Irrigation/Water Management |
| 2. Brush Management | 7. Watering Facility |
| 3. Forest Stand Improvements | 8. Lined Waterway or Outlet |
| 4. Forest Management Plan (written) | 9. Livestock Pipeline |
| 5. Fence | 10. Heavy Use Area Protection. |

Top 10 by dollar amount:

1. Cover Crop
2. High Tunnel System
3. Lined Waterway or outlet
4. Fence
5. Sprinkler System
6. Roofs and Covers
7. Farmstead Energy Improvement
8. Heavy Use Area Protection
9. Waste Storage Facility
10. Stream Habitat Improvement and Management

9:34 2022 Program Changes – Fran DeFiccio, Lauren Lapczynski, Evan Madlinger, NRCS

Fran shared her screen and let everyone know that the information provided doesn't necessarily mean a change but could be just an update to programs they're already familiar with.

Fran started her presentation with FY2022 Allocations.

Agricultural Conservation Easement Program:

ACEP – ALE (general) received \$996,948

ACEP –WRE (general) received \$365,878

ACEP – WRE Bog Turtle received \$200,000

ACEP – WRE Stewardship received \$86,000

AMA: \$203,000

CSP – Classic: \$1,000,000

CSP – Organic: \$200,000

CSP – Renewal: \$400,000

EQIP: \$5.6 million

EQIP - National Water Quality Initiative (NWQI):
\$350,006

EQIP – Golden-Winged Warbler (GWW): \$100,000

Lauren Lapczynski presented the FY22 New Jersey WRE Geographic Rate Rap. There were no real changes for this FY. NJ will be continuing the 95% rate cap of the Fair Market Value (FMV) for Bog Turtle habitat and 90% of the FMV for all other lands. The only change made was the "not to exceed" rate (NTE). This is updated annually based on the mass data for agland and cropland. FY21 NTE rate was \$14,800, FY20 NTE was \$13,800, and FY19 NTE was \$13,700.

Fran then spoke about FY22 program applications for AMA and EQIP. Statewide NJ received 413 applications as of October 22, 2021, and they were shown based on Field Office.

Columbus received 43, Freehold received 37, Frenchtown received 69, Hackettstown received 144, Vineland received 33, and Woodstown received 87 applications. These applications will be considered for FY22 funding. Any applications received after the deadline of October 22 will be considered only if NJ announced another signup date. If another signup is not announced, then those applications will automatically be deferred to the next FY.

AMA ranking pools were next on the agenda. Due to the smaller allocation that NJ received for AMA and the \$50,000 per year payment limitation there is less of an interest in AMA compared to EQIP. For that reason, NJ has limited AMA to two ranking pools (both with an emphasis on urban agriculture): high tunnel and cropland.

High tunnel only considers those applicants interested in a high tunnel and any associated practices specifically for the high tunnel. The cropland ranking pool gives those applicants that do not have an irrigation history an opportunity to apply for irrigation, because a history of irrigation is not required for AMA but is required for EQIP. (For informational purposes, Fran mentioned that a history of irrigation means ground that has been irrigated two of the last five years.)

Continuing the presentation, EQIP ranking pools were next. Changes made to the EQIP ranking pools for FY22 are livestock, irrigation, conservation incentive contracts (CIC), forestry-CNMP-NMP, and other management plans.

In Gail's presentation, she broke down the funds obligated in FY21 by ranking pool. For FY22, NJ made a few changes by combining livestock into a statewide fund pool and eliminating the need to manage livestock by region. NJ often doesn't receive many livestock applications, so managing one fund pool instead of three is a bit easier. In previous years, irrigation has been included in each region's local workgroup ranking pool, often competing with practices that address concerns such as erosion control and soil quality. Separating irrigation will allow NJ to allocate a certain percentage of funds to inefficient use of water.

Evan then discussed new Conservation Activity Plans (CAP). At the Headquarters level, they decided to change up the CAP program a little bit. For FY22, CAPs have been repackaged and organized into three types: Conservation Planning Activities (CPA), Design and Implementation Activities (DIA), and Conservation Evaluation and Monitoring Activities (CEMA).

In addition to the repackaging, they also tried to standardize document formats (they're all laid out, criteria, deliverables, and references with particular attention paid to deliverables).

If anyone is interested in looking at the individual plans or what is included in the individual CAP, the Field Office Technical Guide has been revamped on the website. If you type "NRCS FOTG" it will take you to the main page. One item Evan pointed out was the Summary of CPA, DIA, and CEMA structure compared to the legacy CAPs for FY22. An area definitely affected by this would be forestry. For example, the CAP name was 106 Forest Management Plan. This is now going to be a CPA 106 Forest Management Plan and a DIA 165 Forest Management activity.

Fran hopped back into presenter mode to discuss the purpose of the EQIP Conservation Incentive Contracts (CIC). National Headquarters had this program in place for FY21, but they ran into a few obstacles and decided to pilot the program in only four states last year. So now for FY22, all states will be offering this funding opportunity.

CIC will provide stewardship opportunities to applicants through EQIP based on land use, resource concerns, and the high-priority area that they are located in. This is a steppingstone to move from EQIP to CSP on a smaller scale.

Some major features of CIC include:

- All contracts must be five years.
- They will include management practices that will be the annual payments.
- there's a \$200,000.00 payment limitation that is separate from EQIP payments (we know our EQIP payment limitation is \$450,000.00 and this is not part of that).
- All states must set aside 5% of their general EQIP allocation (for New Jersey that would be \$280,650.00. You can set aside up to 20% but at a minimum, it must be 5%).
- And any unused CIC funds can be returned to the general EQIP to generally quit fund.

For the CIC timeline all states must announce the signup period by December 30th, and New Jersey will announce Friday, February 4th as the last day to apply for CIC funding.

CIC practices must focus on climate-smart agriculture, forestry, and drought mitigation practices. There are 32 eligible management practices with a one-year lifespan that will be offered, although all 32 management practices do not need to be offered (meaning we don't have to offer them all). An example of that would be prescribed grazing. If fence, waters, pipeline, hay planting would be needed to properly implement prescribed grazing then those practices can be added. Management practices can be scheduled for five years, if practical.

If we use the same example such as prescribed grazing, that management practice funded through General EQIP could only be scheduled up to three years.

Fran shared the list of the 32 eligible management practices available nationwide:

- Conservation Crop Rotation
- Residue and Tillage Management/No-Till
- Amending Soil Properties with Gypsum Products
- Prescribed Burning
- Cover Crop
- Residue and Tillage Management/Reduced Till
- Emergency Animal Mortality Management
- Dust Control on Unpaved Roads and Surfaces
- Dust Management for Pen Surfaces
- Field Operation Emissions Reduction
- Fishpond Management
- Bivalve Aquaculture Gear and Biofouling Control
- Irrigation Water Management
- Anionic Polyacrylamide (PAM) Application
- Mulching
- Forest Harvest Management
- Prescribed Grazing
- Grazing Land Mechanical Treatment
- Drainage Water Management
- Nutrient Management
- Amendments for Treatment of Agricultural Waste
- Feed Management
- Fescue Management Conservation System
- Surface Roughening
- Salinity and Sodic Soil Management
- Waste Recycling
- Wetland Wildlife Habitat Management
- Upland Wildlife Habitat Management
- Early Successional Habitat Development
- Soil Carbon Amendment
- Annual Forages for Grazing Systems

- On-Farm Recharge

It is important to note that some management practices do not apply to New Jersey, such as salinity and sodic management. All states must identify at least one land use for CIC. The top three land uses that are common to New Jersey are cropland, pastureland, and forest land. Next, high-priority areas must be identified. These areas should represent areas of significant concern and must encompass every region within the state. This means we can't leave any area behind; we have the option of considering the whole state as one high-priority area or we can set different high-priority areas within the state, giving one area an advantage over another area.

Due to the limited practices in the size of our state, Fran said it's most likely that the whole state should be considered one high-priority area, especially since this is the first year NJ is rolling out this program. If this funding becomes very competitive, we can make changes for the next FY.

The last thing to consider for this program is the priority resource concerns. All states must select at least one priority resource concern for each land use they have chosen but may select up to three for each land use (you must have at least one but can have up to three).

The priority resource concerns must be selected from the eight state priority resource concerns identified for the CSP. CSP is set up such that cropland and pastureland fall under the same state priority resource concerns; forestland has its own list of eight. The CSP state priority resource concerns are used because this program is a steppingstone between EQIP and CSP. The cropland/pastureland list of priority resource concerns are concentrated erosion, degraded plant condition, field pesticide loss, livestock production limitation, soil quality limitation, source water depletion, terrestrial habitat, and wind/water erosion. The forestland list of priority resource concerns includes aquatic habitat, concentrated erosion, degraded plant condition, fire management, pest pressure, soil quality limitation, terrestrial habitat, and wind/water erosion. For CIC purposes, the resource concerns selected for pastureland and cropland are not necessarily the same. Therefore, even though they are combined (because that's the way it is in CSP for CIC for pastureland and cropland), they do not have to be the same.

Fran finished her presentation by talking about a survey she put together and it's only 3 questions: The first question will be asking about the land uses. When you look at the survey, please decide if you would like to see CIC offered to just one land use, or all 3 by selecting up the 3 options. The second question is a simple yes or no asking if the entire state should be included in the same height priority area. And the third question is asking everyone to select up to 3 state priority resource concerns for each land use. You will see that in 3 separate questions for cropland, pastureland, and forest land; all 8 state priority resource concerns will be listed for each of those land uses. Below are the results of the survey.

1. Pick up tp THREE Land uses

● Cropland	11
● Pastureland	8
● Forestland	10



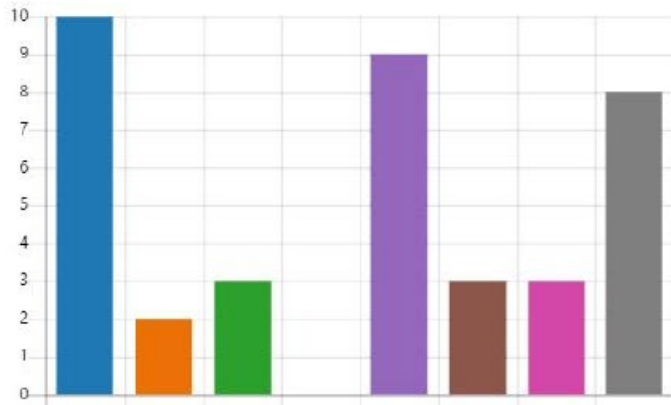
2. Should the entire state be included in the same High Priority Area?

● Yes	10
● No	2



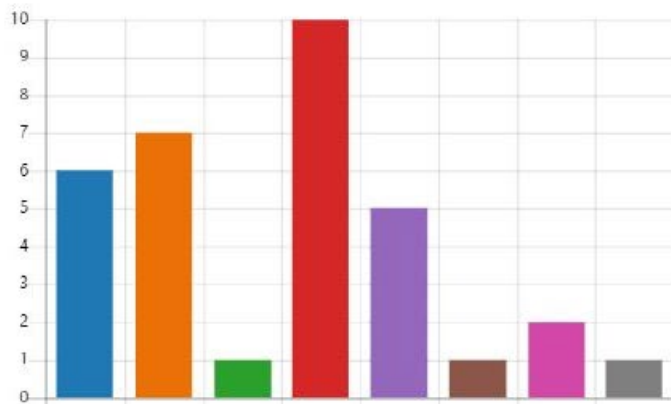
3. State Priority Resource Concerns - Cropland (at least ONE and up to THREE)

Concentrated Erosion	10
Degraded Plant Condition	2
Field Pesticide Loss	3
Livestock Production Limitation	0
Soil Quality Limitation	9
Source Water Depletion	3
Terrestrial Habitat	3
Wind and Water Erosion	8



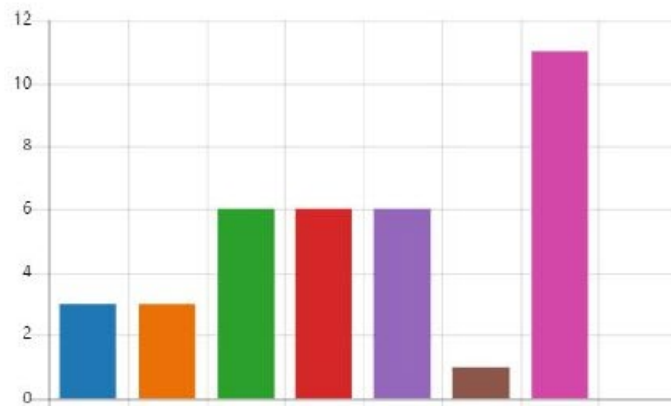
4. State Priority Resource Concerns - Pastureland (at least ONE and up to THREE)

Concentrated Erosion	6
Degraded Plant Condition	7
Field Pesticide Loss	1
Livestock Production Limitation	10
Soil Quality Limitation	5
Source Water Depletion	1
Terrestrial Habitat	2
Wind and Water Erosion	1



5. State Priority Resource Concerns - Forestland (at least ONE and up to THREE)

Aquatic Habitat	3
Concentrated Erosion	3
Degraded Plant Condition	6
Fire Management	6
Pest Pressure	6
Soil Quality Limitation	1
Terrestrial Habitat	11
Wind and Water Erosion	0



10:02 Farm Service Agency Program Update – Updates to FY21 and FY22 – Sarah Fenwick, FSA

Sarah introduced herself as the new Program Specialist for New Jersey who oversees conservation programs and outreach, and will be taking the lead on price support.

A little background on Sarah: she graduated from Delaware Valley University with an agricultural degree and in her free

time she thoroughly enjoys being outdoors.

Sarah's always looking for new meetings to attend, where FSA can outreach to push conservation programs in New Jersey. If anyone has any type of meetings, please feel free to reach out to Sarah.

After her introduction, Sarah gave an overview FSA programs. Their biggest program for conservation is CRP, also known as the Conservation Reserve program. This is a voluntary program that contracts agricultural producers to take environmentally sensitive land out of agricultural production and devote it to conservation benefits. The participants are paid annual rental rates during the contract period and that can range from 10 to 15 years. There are three signups within CRP: general, continuous, and grasslands. Each sign-up has different conservation practices within them.

For general sign-up, this occurs annually during an announced enrollment period. The offers are ranked based on the environmental benefits index. This index includes environmental benefits such as wildlife habitat, water quality, air quality, and then the expense of the practice.

For continuous sign-up this has no enrollment period, producers can sign-up at any time and the offers are not ranked. Within Continuous there are two options: State Acres for Wildlife Enhancement Initiative (SAFE) and Conservation Reserve Enhancement Program (CREP). For SAFE, the purpose is for the sign-up is to restore vital habitats and create food sources. The participants would establish wetlands, grasses, and trees to enhance important wildlife populations and is only available in certain areas of the state. Within SAFE there are three safe mission projects: grassland SAFE, New Jersey rare in Piedmont SAFE, and then New Jersey Agricultural Heritage SAFE. There is also CREP, which is our most popular one in New Jersey.

This is designed to help farmers reduce damage from agricultural runoff and to improve their water quality along their streams. This program takes federal funds and supplements with non-federal funds to cost share the projects. For the grasslands reserve program, this contracts with participants to protect the grasslands, including rangeland and pastureland, while maintaining the areas as grazing layouts. This is considered a working lands program, which means that the land remains in production while farmers enhance the sustainability of their operation.

Currently, FSA has two emergency programs: Emergency Conservation Program (ECP) and the Emergency Forest Restoration Program (EFRP). The ECP is open to Hunterdon and Somerset counties, and it provides emergency funding and technical assistance to farmers to rehabilitate farmland and conservation structures damaged by natural disasters. ECP just recently closed on November 30 of this year. The EFRP is open in Mercer and Gloucester counties, and it assists owners of non-industrial private forests to restore forest health damaged by natural disasters. This program will remain open until December 17 of this year and right now they are specifically focusing on tornado damage that occurred in September from Hurricane Ida.

Sarah shared her screen to show FSA's report on conservation practices, types of signups, practice description, and practice acres. Only key items were highlighted in this report: an increase in pollinator habitat acres, a decrease in acres for CREP for grass waterways, filter strips, and riparian buffer (this could be anything from contracts expiring to new contracts being applied so this isn't necessarily a good or bad thing), a decrease in our SAFE program for permanent native grasses, and an increase in our pollinator habitat for our general sign up.

Overall for New Jersey, there was an increase of acres for the category of continuous signup by 1%, an increase of acres in the general signup of 8%, and an increase of acres for grasslands by 9%.

On the flip side, the total number of contracts went down to 314, as did the number of farms (183). However, the average rental rate went up to \$90.93 per acre.

Sarah also went over contracts that will be expiring in the next five years, 156 in total covering 112 farms and 836.01 acres.

- Conservation Reserve Enhancement Program (CREP) had a decline in the number of contracts (239), number of farms (143) as well as the average rental rate (\$127.94 per acre).
- State Acres for Wildlife Enhancement (SAFE) had a decline: 57 contracts and 43 farms.
- NJ SAFE Grassland Habitat Restoration and Management (CWF) had a reduction in their acres to 297.35.
- NJ SAFE Raritan- Piedmont Wildlife Habitat Partnership (RPWHP) Implementation of Grassland Conversation Plan down to 293.89 acres.
- There was no change in the CRP Grassland.
- FY21 CRP Payments issued a total of \$287,861 and so far for FY22 they have issued \$162,671.

- The Grassland Reserve Program (GRP) is no longer available for enrollment, but there are still some active contracts. These numbers won't change until the contracts and easements expire. There is a total of two contracts covering 34.7 acres (one expires in 2026 and the other in 2027) and one easement covering 18.9 acres. Total payments for GRP FY21 totaled \$807 and \$0 for FY22.
- Brittany had a question/comment in the chat asking for the contact information to be shared.

10:13 Ida Emergency Watershed Program activities – Hilary Trotman, NRCS

Hilary began her presentation with a quick introduction. She is the new NRCS State Conservation Engineer and wanted to share a little background about the Ida Emergency Watershed work she has been involved with.

Hurricane Ida passed through New Jersey on September 1st and that triggered the emergency watershed protection program. Rain fell at a very intense rate of two to three inches per hour in a lot of areas and some areas received about six to eight inches of rainfall in total. Erosion and flooding took place in the state's waterways and caused widespread damage: babbling brooks turned into roaring rapids, a lot of trees were uprooted and moved into streams and culverts, and bridges washed out. Eleven counties in New Jersey were declared presidential disaster areas and most were in the northern part of the state. The Emergency Watershed Protection Program (EWP) was activated in response to the sudden watershed impairment.

The EWP program is a recovery effort aimed at relieving imminent hazards to life and property caused by floods and fires when storms and other natural disasters occur. Its purpose is to assist project sponsors and implement emergency recovery measures to relieve these hazards that caused the sudden impairment of a watershed.

Public and private landowners are eligible for assistance. However, they must be represented by a project sponsor (a project sponsor is the legal subdivision of the state and it's usually a municipality). Sponsors are responsible for providing land rights to implement the repair work, securing all necessary permits, furnishing the local cost-share, and are responsible for 25% of the construction costs in the form of cash or in-kind services. NRCS picks up the remaining 75%.

Sponsors are also responsible for performing any necessary operations and maintenance. The program does not assist with measures that will enhance or increase the level of protection; these additional measures are at the expense of the sponsor.

NRCS and the EWP program will only aid with measures that provide an immediate, adequate, and safe relief from the hazard and are limited to measures or practices necessary to reduce applicable threats to a stable condition. They also must be economically socially and environmentally defensible.

Examples of impairments include but are not limited to debris-clogged waterways, unstable streambanks, severe erosion jeopardizing public infrastructure, wind-borne debris removal, and damaged upland sites stripped of protective vegetation by fire or drought.

Ineligible activities includes the repair and replacement of bridges or culverts and other structures, solving problems that existed before the disaster, recovery assistance to a site more than twice in 10 years, increasing the pre-disaster capacity of a channel, repairing coastal erosion, and any landscaping.

There are general milestones for the EWP program, the first being the sponsor must request assistance within 60 days of a disaster. However, in this instance, NRCS has extended the deadline by an additional 30 days. The next step is NRCS will establish an interdisciplinary team to evaluate the sites. Then damage survey reports and environmental evaluations are prepared by NRCS and submitted to National Headquarters within 60 days of the request. The final step requires the project to be implemented within 220 days of funding approval.

To circle back to the topic of sites that have been damaged by flooding at least twice within 10 years. A floodplain easement option of the Emergency Watershed Protection program offers an alternative method to the traditional EWP recovery program. NRCS recommends this floodplain easement option to landowners and others where acquiring an easement is the best approach, which is more economical and prudent to reduce the threat to life and property. A major goal of the floodplain easement program is to restore the land to the maximum extent possible to its natural condition.

Restoration measures include activities, such as re-establishment of permanent vegetative cover, natural floodplain topography, and removing all (including relocation or demolition of) buildings and other structures that are not necessary

for the proper functioning of the floodplain (such as mills, dams, and fences). Eligible land includes lands that have been flooded at least twice during the last 10 years or at least once during the last 12 months, other flood plane lands that would contribute to the floodplain restoration or improve the practical management of the easement, or lands that would be inundated or adversely impacted because of a dam breach.

- Evan presented a question: Do we have any additional floodplain easements besides Duke Farms and property in Hunterdon County?
 - Yes, in Cumberland County, The Garrison Tract.

10:27 Urban Ag – Margaret Gannon and Evan Madlinger, NRCS

Margaret introduced herself as Maggie. She's traditionally the Urban Conservationist from West Texas but bounces around on details for other states. As recently as July through October of 2021, she served as the Urban Con. here in New Jersey. While urban conservation and NRCS haven't typically gone together because the agency was designed with large conventional operations in mind, NRCS recognized that there are challenges small acreage and urban producers face in accessing the programs we have. Consequently, they formed a temporary committee to examine the needs of these producers and how NRCS might be able to meet them. NRCS staff who serve urban clients provided insight to this committee, and they were able to identify things NRCS can work on in all areas of program delivery: technical, planning, practice, programmatic, payment schedule, outcomes and measuring accomplishments, outreach needs, and partner work, and suggestions for leadership.

New Jersey has been doing an amazing job of providing service within policy to urban clients. Through a state leadership program in 2019, New Jersey had the opportunity to analyze the demographics of its customers and compare that to the history of financial assistance from NRCS - New Jersey for the fiscal years 2014-2018. This comparison highlighted the limited or nonexistent program assistance to the most urbanized counties in the state.

NRCS conducted a location analysis of office producers in practice locations. Clients who live in densely populated counties are also usually outside of NRCS field office service areas or too far from those offices to get to them. Thus, Maggie was brought on to look at different aspects of how we administer our programs at NRCS - NJ.

Results on a state level include a determination if a state Urban Conservationist would be feasible (and what that might look like), drafted a notice of funding for different grants that might help support producers in these areas, created practice standards in terms of conservation practices, and made recommendations for costless changes.

One improvement/change made on the National level is the creation of 17 new urban and small farm payment scenarios. In other words, different practices would receive different payment rates depending on what kind of conservation practices are being implemented and what size the operation it is. Previously, when we performed specialty crop rotation on small acreage, rural farmers received \$15.00- \$20.00 for a contract item, and it barely covered any of the costs associated with installing that practice.

The current project NRCS is working on is the Northern New Jersey Small Farm Food Link Conservation Project with Urban Agriculture Cooperative and they're working to improve connections to urban clients in northern New Jersey. Another project includes a CIG with Groundwork Elizabeth, where the agency is developing an urban conservation showcase and working to collect data to better understand the costs of conservation and new technologies for urban conservation.

Evan jumped into the conversation to discuss the Urban Subcommittee. Back in September, NRCS received a national bulletin from headquarters recommending states establish a state technical subcommittee for urban ag and innovation production issues. The primary purpose of the urban subcommittee is to foster and promote urban agriculture within the state by supporting urban farmers and partners who are working to develop, implement and promote new and innovative practices and address natural resource concerns on urban and small-scale farms.

Committee tasks include:

- Creating a charter
- Identifying urban ag needs (practices, partners, resource concerns)
- Identifying local barriers
- Building state-wide technical partnerships
- Evaluating and reviewing innovations in production and conservation
- Developing outreach strategies
- Assessing natural resources priorities
- Advising state conservationists on policies to improve NRCS Programs
- Supporting local pilot projects
- Providing assistance/advice to state conservationists.

NRCS gathered staff and internally created an ag committee with interest in pulling folks from the State Technical

Committee to help further the cause. The SRC has been chosen to serve as the chair and some topics they'd like to see are urban wildlife and climate change. If anyone is interested in serving in the subcommittee, please let Evan know. We are hoping to get a geographical dispersion throughout the state.

10:55 Soil Shop Urban Ag Activities – Edwin Muniz, NRCS

State Soil Scientist Edwin Muniz, gave an overview of soil efforts in urban agriculture. NRCS is a firm believer in increasing their presence in urban areas as they provide technical assistance for land use/management, soil condition awareness, and food safety awareness. 84% of the population lives in urban areas and are unaware of NRCS and the help they can provide.

The first question Edwin always receives when talking about soil is “Where do soil contaminants come from?” and some of the most common answers range from natural sources (parent material with low concentrations most of the time) to mining, manufacturing, and synthetic products (pesticides, fertilizers, paints, batteries, industrial waste, leaded gasoline), land application (industrial or domestic sludge, animal manure), coal combustion, and atmospheric depositions. Please note that just because concentration numbers are high doesn't mean there is pollution.

As an example, when leaves fall from trees and the township collects them for compost, depending on how long the leaves sat in the street, you may find copper or zinc, but not lead or arsenic. While this may not be harmful to humans, it is important in the biology in the soil (certain concentrations of copper can reduce the population of microbial activity, which at the same time will reduce some of the nutrients that are recycled in the soil).

Edwin shared a few photographs of equipment and practices NRCS offers. The first item is the X-ray Fluorescence (XRF), and this model was chosen because of the simplicity of the data that can be downloaded for use and the limit of detection is within the DEP cleanup restoration standards. The XRF equipment allows NRCS to generate different types of interpretation maps and provide information to the customer about areas of potential hotspots. NRCS only provides screening for awareness; and is not a certified lab for soil analyses. The customer is informed of the potential hot spots, management recommendations are made, and sending samples to the lab is encouraged. New Jersey has been conducting XRF soil measurements since 2011, and have conducted over 156 site visits to places like community gardens, schools, and urban farming operations. Over 4,936 soil measurements have been collected.

For each soil measurement, the machine collects data for approximately 25 elements and the maximum number of measurements per site is 120. Of all the soil measurements collected since 2011, 7.7% measured greater than 400ppm of lead and 7.5% measured greater than 19ppm for arsenic (these ppms are the standards for the cleanup of NJ). This is only a small piece of the overall chemistry in the soil, and we need to look at the whole picture when discussing soil health.

When doing samples, NRCS likes to collect data at two different depths; this allows the scientists to not only see what is on the surface but what is also within the rooting zone. Another assessment provided is Ground Penetrating Radar (GPR). In addition to looking at photos, NRCS likes to know the history of the land. NRCS searches for different anomalies in the soil (foundations, barrier tanks, etc.) to help make better recommendations. Finally, communication is one of the big key points. NRCS like to talk to people about their soil conditions, better use of the soil, how they can protect themselves, people in the community gardens, which crops would be the best choice (based on the recommended information from the fact sheets), and provide contact information for other agencies to help them with funding.

11:15 NRCS Field Operations Update – Nicholas Saumweber, NRCS

Nick spoke about field office (FO) staff working on on-site visits and assessments for the applications that were received in October 2021. As part of this process, the sites must be inspected, eligibility verified, and the natural resource concerns determined. FOs have been working towards the deadline for CSP renewals. CSP contracts have a typical shelf life of five years, at which time applicants can request a renewal. Once the contracts are approved for renewal they go out to producers for their signature. This fiscal year we had 14 renewals.

Nick then gave updates on the Regional Conservation Partnership Program (RCP). The program launched in NJ in 2015, so a flyer was created that summarizes the various projects undertaken since then. The link for that flyer can be found [here](#).

Three projects were funded in FY21 including:

- Protecting Source Water in the Raritan Basin - Lead partner New Jersey Water Supply Authority (NJWSA)
- Salem River Bog Turtle Protection and Restoration - Lead partner New Jersey Audubon
- The Northern New Jersey Small Food Link Conservation Project - Lead partner Urban Agriculture Cooperative

NRCS included the “Protecting Source Water in the Raritan Basin” and “Salem River Bog Turtle Protection and Restoration” projects in the Agricultural Management Assistance (AMA) signup that ended in October. All new signups are being reviewed by staff to ensure the practices customers are looking to cover are included in the RCPP, and not outside of the RCPP parameters.

The last part of getting these agreements set up is to execute a supplemental agreement, which provides funding to the partners to include technical assistance work. Nick will be reaching out to those that have already asked for the supplemental agreement and will be working on getting those executed shortly. Please keep an ear out for the next round of RCPP proposals.

11:23 Conservation Practice Standards – Evan Madlinger, NRCS

Evan started an overview letting everyone know that Conservation Practice Standards are the bread and butter of the agency. Every five years NRCS receives notice (Notice 172) of revisions from National. The revisions are released to the public for comment, and refine the standard based on feedback and then roll the changes out to the States for adoption.

The new notice was sent out and NJ must adopt those changes by October 1, 2022. During these reviews the agency tries to keep the standards as close to what National has pushed down to the State level. Unlike previous notices, this one contains a heavy dose of engineering practices and no wildlife practices.

Some of the practice highlights include:

- Agrichemical Handling Facility (309) - minor revisions to liner thickness and storage volume
- Fence (382) - minor revisions for clarity and readability
- Precision Land Forming and Smoothing (462) combined with Land-smoothing (466), as both practices were similar
- Roof Runoff Structure (558) removed foundation protection and now just addresses soil erosion
- Sinkhole Treatment (527) removed “karst” from the name and is included in the definition
- Sprinkler System (442) updated the tables to meet industry standards
- Vegetative Barrier (601) has a new purpose (reduce ephemeral gully erosion) and updated tables on stem density
- Windbreak/Shelterbelt Establishment and Renovation (380) were combined into one practice
- Pasture and Hay Planting (512), Watering Facility (614), and Water Well (642) all had minor changes as well.

Question from:

- Elizabeth Freiday: For the roof runoff, {the screen slide} said something about “removed the foundation protection”. That would not be necessary; if you established the runoff path properly you must worry about the foundation.

Answer from:

- Evan: Building foundations do not fall under our definition of what the resource concerns are (examples: solar erosion, plants, animal health). It is not a matter of this not being important, but it is not a typical concern.

11:34 Soil Health Activities - Kaitlin Farbotnik, NRCS

Kaitlin began her presentation with a slide providing updates on soil health. There was a Soil Health and Sustainability Training that was held in the Fall of 2021, with six people from New Jersey attending. This training was a great piece of information that helped the New Jersey Soil Health Strategic Plan.

As a resource group right now, the final task for the New Jersey Soil Health Strategic Plan is to review the methodology report. Once completed, they will have to meet with baseline inventory folks to see if any areas that were identified in the local focal areas that they feel have already been adequately treated; if any of those are identified they will be taken out of the focal areas.

A few key soil health activities highlighted being new or updated including CPA116 – Soil Health Management System (completing an inventory of the existing Soil Health System, if there is one), DIA117 – Soil Health Management System (looking at alternatives proposed in the CPA116 and then developing implementation requirements or designs), CEMA207 – Site Assessment and Soil Testing for Contaminants, CEMA216 – Soil Health Testing, and CEMA217 – Soil Nutrient Testing (a stand-alone soil test not necessarily through a nutrient management program. This can apply to irrigation, manure, and composting for example).

11:39 FY22 Conservation Innovation Grants – Evan Madlinger, NRCS

Conservation Innovation Grants (CIG) are an opportunity NRCS puts out there for people to demonstrate a new innovative conservation idea. When it comes to CIGs, there are national competitions and state competitions, with the

state being offered on an every other year basis with FY22 being an “on” year. NRCS has budgeted approximately \$200,000 for this grant with a priority on climate-smart agriculture, forestry, and urban agriculture.

11:45 WLFW Bog Turtle – Evan Madlinger, NRCS

The bog turtle was one of the original seven species when “Working Lands for Wildlife” (WLFW) debuted. There were seven species across the country that NRCS and US Fish and Wildlife Services decided that private landowners could have a meaningful impact on their habitat. New Jersey is the most important state for Bog Turtles.

Traditionally, NRCS has done cost-share agreements as part of a contract that lasted between three and five years. However, over time we’ve seen more interest occur for bog turtles from an easement perspective and have been receiving dedicated funding through ACEP - WRE bog turtle easements. National has met its goals when it comes to bog turtles as a national species.

As a result of national hitting their goals, they have allowed some changes. Right now, NRCS has easements on 43% of the occupied habitat (with nine closed and two pending easements in NJ).

These turtles are tricky in the sense that since they don’t have wings they can’t just fly away. They are stuck to their habitat so having these protected and being able to perpetually manage for them. It is important to do easements on this bog turtle habitat because it allows NRCS and our partners like the Division of Fish and Wildlife and US Fish Wildlife perpetual access to the habitat.

National has decided to conclude Bog Turtle as a National WLFW initiative and is committed to supporting NJ in our efforts. If you applied for bog turtle habitat work through EQIP, that will get prioritized. The ACEP leadership team overseas has committed to providing funding for critical habitat for federal tiny species.

11:54 Cape May Plant Materials Center Update – Chris Miller, NRCS

The Plant Materials Center (PMC) has been around since 1965 to test and select plants and planting techniques for stabilizing coastal sand dunes/shorelines. In addition, they study/test plants for their applicability to droughty, sandy, and low nutrient soils of the coastal plains. The PMC started primarily with doing work in sand dunes and shorelines back in the late 60s/early 70s and it was in response to the nor’easter of 1962 that prompted the formation of this facility. The PMC in Cape May is one of 25 operated by NRCS and has a primary service area from Cape Cod, Massachusetts down to Eastern North Carolina.

One interesting fact is the Cape May location is only one of two with a focus primarily on coastal plant applications (the other location being in Golden Meadow Louisiana, which was unfortunately leveled by Hurricane Ida).

Dr. Franklin Crider, the first director of Soil Erosion Nurseries or Soil Conservation Nurseries back in the 1930s, had a concept of observational selection and observational nurseries. The premise was that nature has already evolved the plants out in the landscape and has adapted to almost any growing condition. The challenge the agency and the PMCs have is to go out into the field, do collections, find material, select for the traits needed, plant test on actual problem sites, and then release that germplasm (whether it is a plant or seed) to the commercial nursery industry for propagation for projects for conservation practices. The PMC does not do any intentional breeding, but they do participate in natural plant selection. Some of the criteria used to select plants depends on what the plan will be used for.

These criteria range from a rebound from scour or damage from storm damage, wave damage, wind damage, the ability to tolerate saltwater and freshwater flooding, alternating wet and dry conditions, heat, and drought tolerance, and does the plant spread rapidly by seen or rhizomes. Much like the Soil Survey Program collects information on soils, soil data, and soil mapping, the PMC does the same thing and the plant materials realm is to provide technical support to the field planners and the field staff. With climate change at the forefront, Cape May is looking to our southeast and south for materials. Through natural plant migration, materials are moving in from the south and seeing a transition from south to north. This allows them to do a lot of plant adaptation work.

Chris wanted to get into specifics about some of the things they have been working on in Cape May. Recently they started a screening study in their controlled-setting greenhouse, looking at upper salt-tolerant limits of some native warm-season grass that either they had released or had available. The screening study had five specific species to be studied: Prairie Cordgrass, Eastern Gama grass, Switchgrass, Coastal Panic grass, and Salt meadow cordgrass.

At this time, they have completed their eight-week screening greenhouse study on Prairie cordgrass via ebb and flow tables. There’s a reservoir underneath that pumps water into the trays and it saturates the plants. The control in this study was: slightly saline or slightly brackish, moderately brackish, and strong saline. They also collected data regarding above ground and below - ground biomass (top growth and root, in this case).

One of the results concluded that this type of grass didn't respond to saline until they reached five and 10 parts of 1000. The information will be brought to the field and actual trials conducted to determine what the upper salt limits are for this species for different applications.

They are also looking at Salt meadow Cordgrass variety biomass plots and varieties that have been introduced by or released by the Plant Materials Program.

NJ has their own Avalon material from New Jersey, Flageo material from North Carolina, and Sharp material from Louisiana. They are looking at these because salt hay was once harvested from the natural marsh and because of environmental regulations, rising sea levels, storm damage, and burning. These protected areas that were paid for are now not happening. This is a very small industry (harvesting from the natural marsh) but is still valued and weed-free mulch is still in high demand while supply is low.

A lot of the work the PMC does is not at the center but offsite at problematic locations. They are currently doing a saltwater intrusion study with the University of Maryland and George Washington University on the lower eastern shore of Maryland, looking at what plant materials can be used for value-added (like biomass production) and buffer applications. They are using the same variety of grasses as mentioned earlier (Switchgrass, Panic grass, Prairie Cordgrass, and Gama grass) and have a team of graduate students out on-site collecting soil data and biomass data (as the PMC provided the plant material and helped with the original planting).

In 1999, the PMC established the Native Warm Season Grass plots on site and developed a cooperative project with the ARS Pasture Systems lab in University Park, Pennsylvania. Research Soil Scientist Dr. Curtis Dell (the ARS carbon sequestration expert) offered his services and took some soil samples. The PMC has continued that project since then, taking samples every couple of years.

Chris shared a slide with historical data comparisons on Big Bluestem, Coastal Panic grass, Eastern Gama grass, Little Bluestem/Indiangrass, and Switchgrass starting with the year 1999 and then taking samples in 2003, 2010, and 2014 (samples were taken in July of 2021 but has not been finalized yet).

These samples for each grass were taken at different depths (0-2", 2"-6", 6"-12", 12"-24", and 24"-36"). This study gives them over 20 years of data and the findings show that you lose total organic carbon with the deeper samples. There is no significant difference statistically by year or by depth or by species after 15 years. They are very interested in seeing the data from 2021 and if those trends continue.

Here are some study conclusions:

- Significant increases in soil carbon by depth takes time (decades)
- The rate and amount of soil carbon increase are highly dependent on land use before conversion (tilled cropland, mined land, pasture)
- Coarse-textured soils in warmer climates/drier soils don't retain as much carbon and become carbon saturated at shallower depths
- No net loss of carbon with the conversion from a C3 to a C4 grass stand (no-till drill seeding)
- Higher potential biomass production of NWSG (forage, biofuels)
- Greater resiliency under extreme weather conditions
- Improved wildlife habitat for some species.

Since 1985, the PMC has been working with Sea Oats material they hoped would be adapted to the area. The cool-season beach grass isn't performing well long term in the dunes. Additional species to diversify the grass are needed to provide long-term cover. Since we are seeing a natural migration of the Sea Oats from the south to the north, it only made sense to use that. They were able to salvage 18 individual plants from the existing back dune in Avalon in 1991 and are still using those materials as a basis for the new release.

In addition, they are also cooperating with The University of Delaware with the Virginia Seashore Mallows. They have made collections from the Texas Gulf Coast to Delaware and have done some initial evaluations. It's an obligate, wetland plant that occurs in salt marshes (naturally adapted to salt) and is a value-added pollinator plant with features like being able to grind up the stem as a highly absorbent material while the seed itself is very oily, so it has the potential of being used as biodiesel.

If FY21 they released a few publications, including an NRCS "Regional Technical Note" on selection and use of native warm seasons grass variety for the Mid-Atlantic. This can be found on the NRCS website.

Also released was the “Identification, Mitigation, and Adaptation of Salinization on working lands in the southeast”, which came from the USDA Southeast Climate Hub. Chris has an opportunity to do a detail with them back in 2019. The Southeast Climate Hub is led by the forester service out of Raleigh-Durham, North Carolina. The last publication discussed was a Technical Note released by Cape May on pollinator species (partnered with Rutgers) but ended back in 2012. By keeping the plots open, they were able to continue collecting data of those individual species plots (what survived the eight-year gap, what flourished, what died off, etc.).

12:20 Vegetative Planting Guide - Kaitlin Farbotnik and Chris Miller, NRCS

Kaitlin started the topic of the New Jersey Vegetative Planting Technical Reference Establishment and Maintenance Guide. The team went through all our practice standards, technical references, and technical notes that were related to specific practices and integrated them into one guide. This is to be used as a “one-stop-shop” so that planners won’t have to use multiple sources and reference materials; everything is in one centralized location.

There are 10 sections to the guide (not including the introduction and appendixes A and B):

- Using this Planting Guide
- General Requirements and Reference Tables
- Upland Herbaceous Planting: Conservation Cover Planting
- Upland Herbaceous Planting: Critical Area Planting
- Tree and Shrub Planting
- Streambank and Shoreline Planting
- Wetland Plantings
- Forage and Biomass Plantings
- Cover Crop Plantings
- Vegetative Barrier Plantings
- References

Since the guide is being offered in digital format, you don’t have to download the entire 150+ page guide; you can download only the section(s) you need. You can find this guide on the Field Office Technical Guide under New Jersey, section 4, Tools for Ecological Sciences.

Chris jumped into the presentation to highlight a few things, starting with specialty mixes that they have tweaked or added from previous critical area planting standards or vegetative standards. He shared a slide with three focal points: Salt Tolerant Pollinator Mix (mesic-wet sites), Salt Tolerant Turfgrass (dry-mesic), and Salt Tolerant Native Grass Mix (dry-mesic).

Some of these are pricey and are not highly commercially available.

The Salt Tolerant Pollinator Mix includes:

- Rose mallow
- Plain’s coreopsis
- Arrowleaf tearthumb
- Bearded beggar tick
- Seashore mallow
- Seaside goldenrod
- Grass-leaved goldenrod

The Salt Tolerant Turfgrass mix includes:

- Dawson Creeping red fescue
- Penn fine Perennial ryegrass
- Turf type tall fescue
- Fulks alkali grass

Salt Tolerant Native Grass Mix includes:

- Atlantic coastal panic grass
- High Tide Germplasm
- Meadow crest Eastern Gama grass
- Nurse Crop Canada Wildrye

There is one special mix that Chris has trademarked as New Jersey PMC Coastal Plain Waterway Mix, created back in 2010- 2012. The term “waterway” doesn’t necessarily suggest that it should only be applied to waterways. For example, it could be applied to buffers and filter strips.

This specialty mix was planted in a waterway in the Woodstown area back in 2012 and Chris was able to see firsthand the results of the planting in March of 2021. The waterway was originally excessively sandy soil, and the seeds were planted with an erosion control blanket included just a week before Superstorm Sandy. The area was well established, very thick, and dense, with very little relaying within the waterway itself. The application in

Woodstown is a great example of use and performance and will continue to evolve the planting guide as new information becomes available, as they do additional trials, and as they find out more information about plant performance on different types of sites.

12:34 Partner Report – NJDFW – ENSP Erosion Control and Wildlife – Kris Schantz, NJDFW

The purpose of this presentation is to bring awareness regarding the reduction of plastics, specifically the toxic additives that plastics release into our environment, and to reduce wildlife entanglements by rethinking the methods that are implemented to control soil erosion and sedimentation.

The products used in the control of soil erosion and sedimentation include reinforced silt fencing and blankets. However, the key issue is plastic or synthetic material netting. There are merits to the use of these items (preventing mudslides coming down a slope into waterways or residential communities, for example) but we need to think about the variables in this situation: joints (movable instead of fixed), aperture (shape and size), and material diameter/thickness as these all play a role in exacerbating entanglement risks.

Permanent soil erosion control products that are used in certain areas are often plastic netting, which unfortunately creates a long-term wildlife entanglement risk. These nettings are exposed, for periods of time, often in rare species habitats. The short-term risks include the cost of removal/disposing of the netting and equipment entanglement for those who are managing/maintaining the lands. These temporary products do not degrade; they break into plastic fragments and micro-plastics that remain in the environment. In turn, these toxic additives are entering our environment affecting not only human welfare but of course wildlife as well (such as aquatic wildlife, who not only become entangled but also ingest these floating particles of plastics).

Minnesota Department of Transportation (DOT) and Vermont Transportation has taken the lead on erosion control and wildlife. In Minnesota's estimates, over three years (2016-2018), they apply up to 31 tons of plastics (synthetic fiber) roadside every year on average. This does not include their rights of way embankment, restoration, and construction projects.

While there isn't a way of calculating New Jersey's use now, it is safe to say that any plastics entering the environment unnecessarily could be prevented. We can reduce those toxins.

Nationwide there is a shift away from synthetic nettings and malachite green with New Jersey falling behind. Currently, there are six state DOTs (Minnesota, Delaware, Washington, Oregon, New Mexico, and Maine) that no longer allow plastics in their temporary erosion control blankets (Minnesota doesn't allow plastics in any of their temporary erosion control products and Vermont has been working towards a statewide requirement to ban plastics).

In addition, four state DOTs (Oregon, Washington, Vermont, and California) also provide options for biodegradable segment control logs and do not allow plastics in their hydroseeding practice. There are four other state DOTs (New York, Texas, Illinois, and Montana) that are in the process of making the shift towards eliminating or reducing plastics in their temporary products. Moving in the right direction, Idaho DOT is encouraging the use of 100% biodegradable products statewide and requesting information on the performance of products. There is a possibility of Federal action on this topic. The Environmental Protection Agency (EPA) is reviewing construction general permits. Minnesota DOT submitted a comment about how they use only 100% natural products on their temporary applications and hopes the EPA will consider that for a national standard.

USDA is the lead agency on the standards for New Jersey soil and sediment control. Their policy does not require people to use products with synthetic materials; they require that the products fulfill the performance requirements. This allows them to create guidance or enforce rules that reduce the use of these plastics and synthetics in locations where they're not necessary.

As a participating member of the "Endangered and Non-game Species" program, Kris and her agency acknowledge that there are some situations that would warrant plastic netting (like steep slopes). However, they cannot go back to the same old approaches; and measures that reduce wildlife entanglement need to be put into place.

The ENSP attended a three-day virtual meeting in 2020 that involved 22 states (mostly DOTs and a few states environmental agencies), Canada, and manufacturers of the products in question. New Jersey DOT and New Jersey DEP were not in attendance.

One key point during the virtual meeting was the lack of national, standardized definitions for industry terms. While most think the terms are unambiguous, there are loopholes, misunderstandings, and new interpretations.

In 2012, the Federal Trade Commission stated that for a manufacturer to claim that a product is degradable, all components of the product must "completely breakdown... decompose into elements found in nature... within one

year...after customary disposal". This definition is not being met and nobody is being held accountable. For example, the products containing plastic or synthetic netting that claim to be photodegradable and UV degradable when they do not remain intact for extended periods (some for as much as eight years), the netting becomes exposed, and the organic materials that surround them begin to decompose after a few months. In addition, the netting itself isn't biodegradable; they break apart into plastic fragments, matted balls of plastic, and microplastics that remain in the environment. As a result, netting becomes an even greater wildlife entanglement risk. Some states have taken matters into their own hands to create a standard definition.

Washington State DOT and Idaho DOT have specifically defined what biodegradable means: nothing shall be made of natural plant material or crimped fibers unaltered by synthetic materials. If this does not come to fruition as a national standard, then it is recommended that New Jersey adopts something very similar.

There are concerns about the plastics and toxins of those plastics entering the environment, but these products have been implicated in wildlife entanglements across birds, fish, mammals, and particular snakes because of the way they move through the landscape. The ENSP did a review of the literature and out of 175 reptiles that were entangled in netting, 89% were snakes (9.1% lizards, and 1.7% turtles). Kris shared a picture of approximately two to three linear feet of netting in a field and there were five snakes entangled. Upon closer inspection of the photograph, it shows none of the snakes are in decomposition and none have predatory/scavenger bite marks. They likely died because of entanglement.

NRCS Indiana has a snake-friendly fact sheet to help spread awareness. Minnesota and California have "Similar products as well. If anyone is interested in creating a fact sheet like the examples for New Jersey, Kris would like to offer her help.

Reducing user costs of temporarily installed products (which are supposed to be removed and properly disposed of) costs personnel and time. When you attempt to remove them, they break apart into fragments, as mentioned earlier, and you wind up with a square foot of plastic netting. Now imagine that over a large project area. It is impossible to clean and as a result, they are often left in place. On the other hand, 100% natural fiber products can remain on site. The use of natural fiber products can help reduce mowing and equipment entanglement, as they degrade in less than a year, making them an ideal solution to reduce or eliminate entanglement with equipment.

Vermont Transportation has assessed a project site where they installed woven natural fiber nettings and found that it was a negligible cost increase of less than 0.1% of the job. Moving forward New Jersey should be considering the benefit against the cost. Frank Minch from the Department of Agriculture, the lead on the New Jersey SEC standards, was contacted. While his office is otherwise indisposed with the Governor's Green Infrastructure Agenda, he did mention the possibility of a supplement to the standards to add some information regarding this topic that could potentially get people to voluntarily implement the guidance. We took this information and incorporated it into discussions with wildlife working groups with the New Jersey DOT. While they are interested, there is also some hesitation.

Kris took the initiative and drafted a policy for the DEP to implement on DEPs owned, managed, leased, and regulated lands. It is currently being reviewed by some of her colleagues and then will go to DOT for their input. If anyone has any interest in perusing, please let her know. The hope here is that if DEP does accept and implement this policy, we can then use that to garner support and encourage partners elsewhere.

Question from Kaitlin Farbotnik:

- What is the cost difference between a natural material vs a synthetic equivalent?

Answer: The only information Kris has is from Vermont Transportation and that information came from a large road project. It was only a \$2500 increase in price to use natural versus plastics or synthetics. Less than 0.1%.

12:56 Partner Report – Rural Development – Jan Rega, USDA-RD

Jan started with highlights of summer programs that might intersect with activities working with agricultural producers and landowners. Rural Development (RD) manages approximately over 50 programs and admission areas that are covered by three different agencies: Rural Business/Cooperative Service, Rural Housing Service, and the Rural Utilities Service. The crossover to NRCS is the cooperative service area and utility services. RD provides grants and loans to rural communities and businesses, which include some agricultural producers, non-profits, and residents.

One of the funding priorities for Rural Development is to find ways to use finding sources of loans and grants to address priorities of eligibility and scoring in mitigating impacts of climate change. Four programs provide some funding, either directly or indirectly, for agricultural producers. The first program is the Value-Added Producer Planning and Working Capital Grant program (for agricultural producers). This program has closed for the fiscal year 2021 and will reopen in the

spring of the fiscal year 2022.

The second is Renewable Energy and Energy Efficiency Grants and Loans (for small businesses and agricultural producers). Agricultural producers must meet farm income criteria for eligibility. If they're a farm, they're a farm no matter where they are in New Jersey, concerning renewable energy and energy efficiency. Grant programs of a small business must be in a rural area.

The third program is Guaranteed Loans (for business, agricultural producers, and non-profits). Our guaranteed loan program also can fund agricultural producers (not crop production). Many specialty industries, like aquaponics, hydroponics, greenhouse producers, and businesses are trying to run 24/7 to provide food.

The fourth program is the Rural Business Development Grant (for public bodies and non-profits). There has been a lot of interest in the last two to three years in local food and has been the driving force behind agricultural production, tourism, food supply, and production.

Jan shared a few projects as examples of these programs:

- The Fulper Family Farmstead - They received a Value-Added Producer Grant for \$250,000. Fulper used the funds to increase dairy product offerings, develop and expand the on-site farm store and hire more sales personnel to target wholesale and retail marketing, including a fresh marketing campaign. Fulper Family Farmstead is a fifth-generation Dairy of Distinction dairy farm located in Hunterdon County.
- The Donaldson Greenhouse - Awarded \$20,000 in 2019 to purchase and install a 10kW combined heat and power system. This new system saved approximately \$8500 annually on their energy costs. Donaldson Greenhouse is an existing family farm for over 100 years with a full-service nursery and greenhouse.
- North Jersey RC&D - Awarded \$100,000 obligated in FY21 to create their North Jersey Renewable Energy Assistance Program to provide energy assessments for Hunterdon, Morris, Sussex, Mercer, Somerset, Union, and Warren businesses. Hackettstown Business Improvement District is in the process of looking to implement a project that was the base of their feasibility study (In 2018, funded by RD) to establish a food hub with mixed-use and selling of agricultural products and building on the retail environment on the main street. A regional food hub would co-locate with the market and serve Hunterdon, Morris, Sussex, and Warren counties. The Tri-County Coop Auction Market installed and enhanced the customer parking area to make it safe to utilize the auction facility.
- Plainview Growers, Inc. – They are a greenhouse grower and seller of orchids, succulents, finished bedding plants, and potted plants to nurseries and retail garden centers in the NJ/NY area. The loan provided an 80% guarantee to AgCredit, ACA on a \$9.5 million loan included in a \$13.5 million refinancing package.

The Rural Housing Service has been meeting with municipalities and non-profits throughout the state. Some of the non-profits are looking for ways to utilize some of their space for education on conservation, creating centers of interest for the community, and looking for ways to utilize the space for other resources to support public greenways (or other options).

Rural Housing Service was also consulted very early on with coming up with solutions for algae blooms (with the option to be part of implementation and financing on construction to mitigate some of the stormwater runoff from facilities that may be built by the municipality in the community schools' firehouses). In the future, the requirements of pre-funding electric vehicle charging stations are a priority.

The Rural Utility Service has two programs: Water and Environment Programs (for public bodies and non-profits) and Telecommunications Programs (for public bodies, non-profits, and businesses). Both programs help municipalities ensure their systems are resilient, energy-efficient, and ensure adequate broadband and internet services.

They also offer Water and Waste Disposal loans and grants to help improve water quality. In Sussex County, they worked with Green Hill Estates property owners, with a \$154,400 loan, to replace water mains and distributions lines in the community. Sparta Commons Townhouse Condominium utilized a \$1.5 million loan and a \$1.25 million grant for the replacement of septic fields with a sewage collection system connected to Sussex County MUA. Chestertown Maryland utilized a \$598,000 loan and \$400,000 grant to implement a storm sewer (stormwater collection). Sanders County, Montana utilized a \$3.538 million loan for solid waste system improvements.

The priorities of Rural Development are like the priorities of NRCS – we're the lender that is implementing projects. RD is encouraging anyone that has run into problems while serving the community and needs funding to contact them. Food banks, healthcare, delivery, food supply, and climate change are all priorities of the organization.

Bridgett started her presentation with Cover Crop Application Methods – Field Trial Results. They are closing out an NJ Conservation Innovation Grant (CIG) that was received three years ago, which looked at cover crop application methods. The grant provided \$52,000 to study cover crop application processes to achieve optimal soil health. They looked at three ways of applying cover crop earlier to facilitate more multi-species cover crop use: inter-seeding (seeder plants cover crops in between standing cornrows about approximately knee-high), aerial seeding (using airplanes, helicopters, or drones to drop multi-species cover crop into standing corn and soybean), and standard application of drilling cover crop using a no-till drill.

The evaluation methods included drone imagery, biomass production, and satellite imagery. The study site is in Frenchtown on approximately 50 acres of field. The farmer has historically always farmed it in strips, mostly to reduce erosion. RC&D ran into a few research challenges with a big item being deer.

There is interest in working with soybeans as a cover crop but the deer damage at this site was so severe after the first year that the farmer had to stop planting. They also ran into COVID issues during the second and third years of the trial. This inhibited the option of using partner facility labs for the biomass sampling they usually complete.

The results of the inter-seeding showed most cover crops died throughout the growing season in all three years of the trial due to shading, drought, or lack of sun. This method has a few drawbacks.

For instance, it causes significant damage to the crop in the head row, is time-consuming, the equipment is very expensive and hard to transport, and in the long run, it produced a terrible standing cover crop. Overall, inter-seeding is not viable.

Winter cover was greatest in fields aerial seeded in early September, and spring biomass was greatest in fields drilled after harvest. Due to COVID restrictions, they were unable to complete a lot of the biomass traditionally, so they pivoted to a satellite analysis. They took approximately 280 acres across Warren and Hunterdon Counties where they had facilitated the aerial seeding on a variety of different soil types, and they compared information over two years on the NDVI levels on those croplands after corn and soybean. Aerial seeding was very effective after soybean while corn was less effective. This result points out the need to prioritize aerial seeding on the ground coming out of soybeans because it is more effective, and the area is prone to erosion.

There is a comprehensive guide to aerial seeding available that goes through all the details, about 10 pages in length. It discusses items like what is aerial seeding, benefits, drawbacks, tips for success, cost and management considerations, has an image gallery, research results, explains how to get the program started, and the logistics behind it all.

If there are questions or confusion about NRCS Cover Crop EQIP policies, RC&D works closely with NRCS employees Kaitlin and Christian to summarize the differences between the soil health initiative through EQIP and then conventional EQIP (and all the guidelines that are associated with cover crops in the EQIP program).

1:26 Partner Update – Groundwork Elizabeth – Jackie Albaum, Groundwork Elizabeth

Jackie began her presentation with an introduction. She is the Director of Urban Agriculture for Groundwork Elizabeth. She has worked in urban ag for the last 10 years. Groundwork Elizabeth is a trust and is part of a national organization specifically trying to change places and lives (through policy). The biggest policy from an urban ag perspective is changing attitudes. In \$2.3 billion invested in farmland preservation in the state of New Jersey, \$0 was spent to preserve land in Essex, Hudson, and Union Counties. As a result, in Union County, there are 92 acres left of farmland.

Ten years ago, Jackie met local Assemblywoman Annette Quijano of the 20th legislative district. Quijano came to the US from Puerto Rico as a child and had many memories of her father working the fields and being a part of her life. She went to a non-profit that Jackie was working with at the time and wanted to build gardens. Groundwork Elizabeth began to build and support gardens throughout the county.

Quickly a few items became apparent: first, they needed land (which is not readily available and is quite expensive if available in urban areas). They looked around to different types of government to expand urban agriculture operations. This led to them being invited to farm at Kean University. They filled the role there for three years. During this time, they met with the DEP.

Groundwork Elizabeth showed them the farm, explained: how they felt everyone should be able to see food growing, the value in the farm, building communities, and restored urban blight. The DEP agreed and joined forces to work on the micro-farm concept (a farm less than five acres that makes \$1000 per year).

Jackie highlights that losing land and losing structure is one of the biggest battles in urban agriculture. If you don't have a lot of money and can't afford to purchase land, specifically for agriculture, those people live in fear that the land will be

taken from them. The most attractive aspect of the new land they acquired is that it belongs to the public library; the library must close and no longer exist as an entity before they would lose the farm.

During the NJ Mayors Conference, Jackie met Rosalynd Orr from NRCS. Rosalynd explained who NRCS was, and a partnership bloomed. After extensive conversations they decided to implement a high tunnel via EQIP, which was great for the micro-farm as one of their goals is to engage the public, increase access to urban agriculture, provide accompanying education, provide technical and financial assistance, and mentorship to producers in the area.

As part of the EQIP requirements, they had to include the planting of cover crops, which was done over two years, and they received payment for it. This illustrates first-hand knowledge of how NRCS has developed financial support as well as providing technical resources, biologists, and GIS. However, receiving three dollars an acre does not work in the city. The high tunnel turned out better than they had anticipated with the inclusion of a galvanized steel raised bed and making sure it is handicap accessible.

One issue that presented itself was the type of material to be used as the floor. The original plan was to use wood chips. However, after assessing the surrounding area of where the wood chips would be located, it was determined this method would create a toxic environment as the lack of proper ventilation would create mold. They found a better solution by using stone. The city of Elizabeth is extremely supportive of urban agriculture and at no cost to Groundwork Elizabeth, provided the stone and machines to complete the project.

After the work began on the high tunnel, they applied for the CIG. One thing that was attractive to them was the focus on the development of urban conservation practices and technologies. They applied to create an urban conservation farm to show people different ways to grow with different techniques.

Groundwork Elizabeth is not a farm, they are not growing for commodity purposes. They are growing for educational purposes with culturally specific crops. There are 72 nationalities in Elizabeth and finding Ethiopian oregano is impossible in New Jersey, except for at their farm. They are an urban farm showcase; the micro-farm is a tool to deliver environmental justice to the underserved communities that did not get their land saved by the Cooperative Extension. There's limited opportunity for agriculture and there's somewhat of limited interest as well. The urban demonstration farm changes that for the community.

Groundwork Elizabeth is looking at the following resource concerns regarding the high tunnel: degraded plant condition, soil quality degradation, soil remediation, and barrier installation.

The tunnel sits over an area contaminated with lead, coal, and arsenic. The topsoil is a clean fill but while digging out a micro-forest portion, they can see all the different layers in the soil. They installed a rain garden as part of the micro-farm. The farm doesn't only teach agriculture, they want to give everyone the full picture.

As an entity, Groundwork Elizabeth considers itself pollinator-heavy from the start. They have been building gardens in partnership with the county for five years. Before COVID occurred, they added pollinator gardens using hedgerows to protect the bees in some urban areas. They need hedgerows for the bees on the block, not to cover 200 acres on the perimeter.

Other concerns they have are insufficient water/insufficient use of irrigation water. They want to make sure they are educating the public about farming or exploring agriculture. They always let people know they are demonstrating practices.

Jackie believes it has been an excellent investment of resources from NRCS to explore urban agriculture. The ability to look at these resource concerns and provide feedback will make NRCS more relevant to urban agriculture. As urban agriculture grows, the biggest concern is how are you going to get land and the resources needed to stay in business? In the city of Elizabeth, to live in a two bedroom, one would need to make close to \$50,000 a year (and that's on the modest side). Most farmers are not going to make that much.

1:48 Open Discussion, Evan Madlinger, NRCS

The next State Technical Committee meeting will be in June of 2022.

1:49 Closing Remarks, Julie Hawkins, NRCS

Thank you to all presenters and participants. Happy Holidays.

1:50 Adjourn