A Message from the State Conservationist

NRCS has long been known for the technical expertise of our employees. Recent budget pressures have created challenges for our work force, and we appreciate the dedication of the conservation professionals who work hard to fulfill the mission of NRCS in New Jersey. Currently, 66 NRCS employees and 9 partner employees provide technical assistance to private land owners and land managers to promote high quality, productive soils, clean and abundant water, healthy plant and animal communities, clean air, an adequate energy supply, and working farm lands from ten office locations throughout the State.

With fewer funds to accomplish our goals, we are focusing more and more on cooperative conservation with our partners. The \$6.4 million allocated to NRCS for technical assistance in 2007 was supplemented by over \$24 million from our conservation partners collectively. That means for every Federal dollar provided to New Jersey, conservation partners contributed \$3.80 in support of the NRCS mission.

There is growing concern in our nation and in our state about climate change and environmental health in general. This concern provides NRCS the opportunity to offer a better understanding of the importance of soils, often overlooked as a foundation resource. To this end, we are equipping our employees and partners with tools that will help them more effectively communicate the value of soils to the entire ecosystem.

Looking ahead, we are also working to capture the benefits of the many conservation practices already implemented on the New Jersey landscape. In keeping with the national effort through the Conservation Effects Assessment Project, we are working with our partner NJDEP and others to monitor and quantify the effects and benefits of these practices. Being able to explain the impact of conservation in measurable terms will help advance the cause of conservation and help us make informed decisions about how to best spend the dollars allocated to protect our soil, water and air.

Thomas Drewes State Conservationist January 2008



NRCS East Regional Assistant Chief Dick Coombe, 2nd from right, visits with NRCS staff and Bill Leavens, Musconetcong Watershed Assoc. president, at left.



NRCS Chief Arlen Lancaster, center, and New Jersey State Conservationist Tom Drewes, left, visit with Mercer Soil Conservation District Supervisor Gary Mount.

Conservation Technical Assistance

In New Jersey, most NRCS customers are private landowners, municipalities or counties. Much of NRCS technical assistance is provided in cooperation with conservation partners in New Jersey. There are 21 counties and 15 soil conservation districts that share common boundaries. NRCS has strong partnerships with the Soil Conservation Districts and the NJ Association of Conservation Districts. NRCS also works effectively with the New Jersey Department of Agriculture, Rutgers University, and other State and Federal agencies. The State Technical Committee, comprised of a wide spectrum of conservation partners, recommends technical guidelines and program criteria



and priorities necessary to carry out conservation provisions of the Farm Bill. All of these partnerships sharpen the delivery of natural resource management and conservation in the State.

- Provided Soil Quality Training to 54 NRCS staff and partners to improve our ability to communicate the important role of soils to the entire ecosystem. More than 100 scheduled to attend 2008 training sessions.
- Completed over 34,000 acres of conservation planning for farmland preserved properties, state wildlife properties, and for federal farm bill program applicants.
- Forty-one Comprehensive Nutrient Management Plans for livestock operations.
- Worked with Rutgers University to develop data to improve NRCS technical standards.
- Assisted with "Project Soil Conservation," which includes the development of curriculum for New Jersey schools
 and the design of a soil tunnel to be used to promote understanding of soils with the public.
- Presented NRCS at Career Days at Rutgers University (60+ individual students contacted) and to a careers orientation class of students in environmental studies (35 students).
- Prepared materials and staffed 2007 NJ Envirothon (high school environmental competition) with over 175 students participating.
- Assisted US Army at Fort Dix with resource management activities.
- Delivered conservation information, including Web Soil Survey.
- Provided technical training through the Continuing Education Short Course Program at Rutgers School of Environmental and Biological Sciences (formerly Cook College).
- Regionalized the Hydric Soils Indicators with the Army Corps of Engineers, Environmental Protection Agency, Pinelands Commissions, NJ Department of Environmental Protection, and Universities.

Outreach Activities throughout New Jersey

NRCS employees receive civil rights training to ensure that every qualified applicant is properly served. In 2007, 15% of applications received for technical and financial assistance by NRCS Service Centers were from beginning or limited resource farmers.

NRCS takes advantage of outreach and education opportunities throughout the State. Employees explain our mission and services at community events and fairs, agricultural and environmental conferences, university career fairs, Future Farmers of America land judging, the New Jersey Envirothon, and project site demonstrations, as well as through technical training at workshops, seminars and university courses.

NRCS Website

The New Jersey NRCS website is kept up to date with current program information, NRCS services and contact information. (www.nj.nrcs.usda.gov)

Assisting Other States

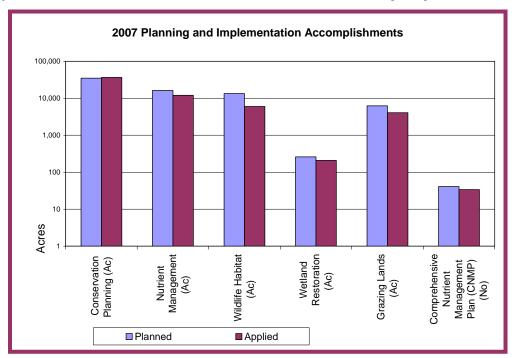
Three NJ NRCS employees worked in other states in 2007. Contract Specialist Lenora Jordan helped with Hurricane Katrina cleanup contracts in Louisiana for four weeks. Irrigation Specialist Ruben Perez worked on irrigation and livestock management facilities in California for two months. Civil Engineer Michael Mirage worked on Emergency Watershed Protection in New York for four months on stream stabilization projects to repair areas damaged by a June 2006 storm.

Conservation Accomplishments – 2007

NRCS provides technical assistance and funding to private landowners and agricultural producers for implementation of conservation practices. In New Jersey, Farm Bill dollars promote the development and use of conservation plans and nutrient management systems, wildlife habitat creation and enhancement, wetlands restoration, grazing land

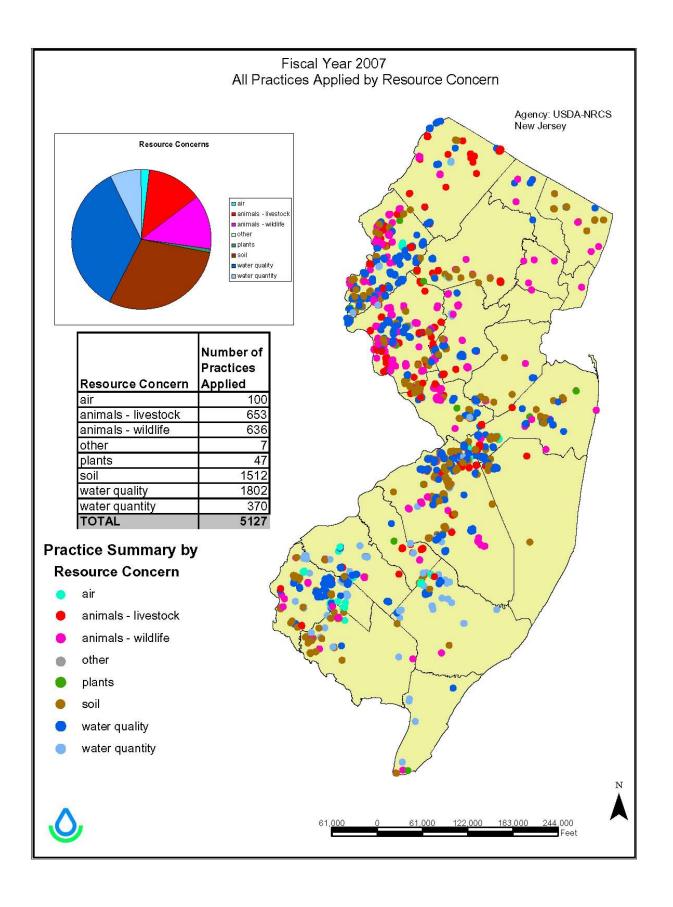
maintenance, and development of Comprehensive Nutrient Management Plans. Most requests for conservation planning are received from private landowners and land managers who are applying for current year Farm Bill programs. Conservation planning is done under the Conservation Technical Assistance program.

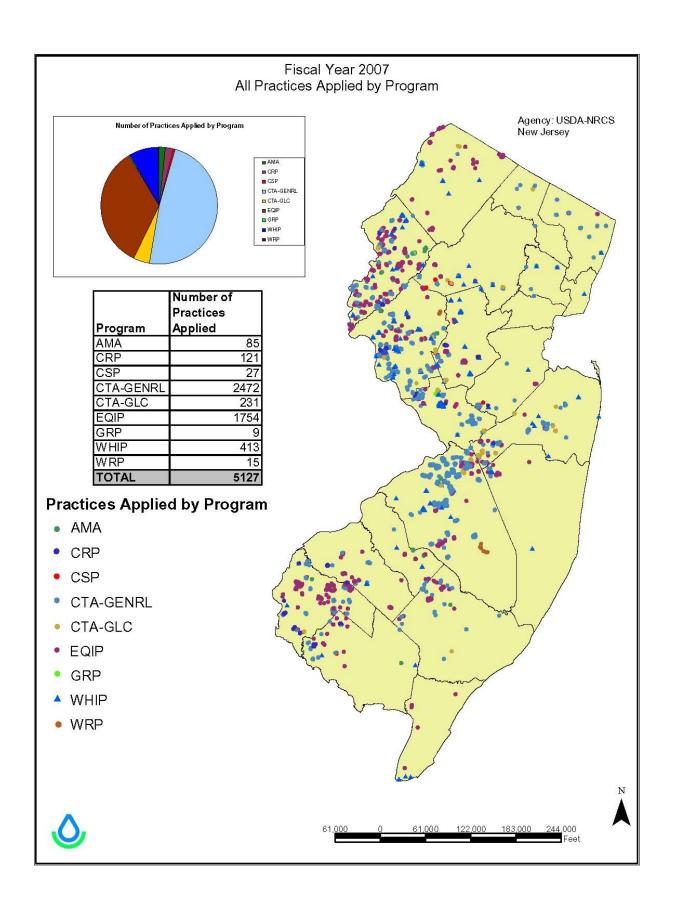




Planning and Implementation Accomplishment Data

County	Conservation Plans (all lands)		Nutrient Management		Wildlife Habitat Management		Wetlands Restoration		Grazing Lands Management		CNMP (No)	
Acres	Planned	Applied	Planned	Applied	Planned	Applied	Planned	Applied	Planned	Applied	Planned	Applied
Atlantic	1,514	3,002	695	158	12	200				3	1	
Bergen	375	299	50	16	38	226	1		17		2	2
Burlington	7,041	7,657	5,922	3,150	1,059	2,237	174	165	698	865	3	
Camden	247	379	175		8	4			111	72	3	1
Cape May		215		5		11						1
Cumberland	1,890	1,207	507		552	97	24		2	11	1	
Essex	2,235	75	42		1,998	26	3	2				
Gloucester	1,209	770	51	423	96	96				29	2	
Hunterdon	4,711	3,522	1,954	696	4,395	1,749	10	3	1,424	1,243	4	3
Mercer	1,336	1,892	466	233	507	727		1	231	151	3	2
Middlesex	1,365	726	1,025	219	35	30					1	1
Monmouth	1,792	1,868	950	595	95	110	3		216	316	3	5
Morris	564	1,059	89	74	257	92	31		127	152		1
Ocean	233	440	136	312	6	2			39			
Passaic	48	51	5		41	46			1	2	1	3
Salem	4,141	4,853	1,069	1,158	194	359			232	73	4	4
Somerset	822	1,173	460	506	895	534			230	87		1
Sussex	428	926	140	591	4,247	21	15		147	256	7	3
Warren	4,949	6,429	2,592	3,907	2,951	1,065	1	38	1,572	795	6	7
Totals	34,900	36,543	16,328	12,043	17,386	7,632	262	209	5,047	4,055	41	34





Plant Materials

The Cape May Plant Materials Center (PMC) located west of Avalon, New Jersey is adjacent to New Jersey's most expansive tidal marsh estuaries. The Cape May PMC is working to develop:

- Local eco-types of native plants for USDA Farm Bill conservation programs.
- Diverse native plants available for coastal sand dune systems.
- Additional native species for tidal shoreline stabilization along marshland/tidal marsh estuaries.
- "How to" guidance for re-vegetation technologies for stabilization of highly disturbed areas such as mined lands and brownfields.



Plant Releases in 2007



Dune Crest Source Identified Germplasm of Coastal Little Bluestem

USDA-NRCS released three new native plants in 2007. Dune Crest Source Identified Germplasm of Coastal Little Bluestem will be used by coastal managers to help stabilize sand dunes. Dune stabilization protects coastal community infrastructures and personal property. Several commercial growers have expressed an interest in growing this valuable product.

Two of the three releases were native warm season grasses. Coastal Source Identified Germplasm Indiangrass originated from and is intended for use in USDA Conservation Programs in southern New England. High Tide Tested Germplasm Switchgrass is a plant material that is intended for use in saturated soil conditions.



Coastal Source Identified Germplasm Indiangrass

Plant Sciences for Frontal Dunes and Beach Replenishment Projects Conference

More than 65 representatives from agencies, contracting and engineering firms attended the March 6 – 8 conference. Presentations included historical coastal sand dune activities, restoration ecology for pioneer zones, restoring coastal dunes in developed communities, beachgrass dieout, spatial data analysis and coastal risk assessment, and frontal dune evolution and the impact on plant communities. Workshop participants toured a large scale beach replenishment project, the high dunes in Avalon, and the Cape May Plant Materials Center. Sponsors of this event included USDA-NRCS Cape May Plant Materials Center, Sea Grant New Jersey, Stevens Institute of Technology, Cape May County and New Jersey Marine Sciences Consortium. NJN News covered the conference.



Beach Plum



PMC employees and products



Plant identification in the field

Soil Survey

The Natural Resources Conservation Service (NRCS) is responsible for the leadership of soil survey activities of the U.S. Department of Agriculture, for the leadership and coordination of National Cooperative Soil Survey (NCSS) activities, and for the extension of soil survey technology to global applications.



Warren County Soil Survey Update



Soils Investigation in Warren County

To complete the Warren County update, NRCS Soil Scientists incorporated new and innovative technologies, like Global Positioning System (GPS) and Personal Digital Assistant (PDA) equipment, and evaluated and utilized several valuable digital map editing techniques in Geographic Information System (GIS). As a result, the time needed to prepare the digital soil maps for posting on the web was shortened dramatically. The Warren County Survey was created with a scale of 1:12,000, significantly more detailed than was possible for past surveys.

The Web Soil Survey can be accessed through the NRCS New Jersey website at www.nj.nrcs.usda.gov, linking to the "Information about Soils" from the right side of the page.

NJ National Cooperative Soil Survey Work Planning Conference

The National Cooperative Soil Survey is an effort of Federal and State agencies, universities, and professional societies to deliver science-based soil information. The annual New Jersey

National Cooperative Soil Survey (NCSS) Work Planning Conference was held in Somerset, NJ, on August 16, 2007. A round table organized by State Conservationist Tom Drewes was held during the morning session to discuss how soil survey information can be integrated into decision making for natural resources management. The New Jersey Department of Agriculture, Rutgers University, New Jersey Institute of Technology, North Jersey Resource Conservation and

Development, Delaware River Basin Commission, and the New Jersey Water Supply Authority participated with NRCS Soil Scientists. This group agreed to form a committee to develop training and promote outreach to increase the understanding and utilization of soil survey products and data.

Modern Soil Survey Products

Web Soil Survey http://websoilsurvey.nrcs.usda.gov/app/ was introduced in 2005. The site is updated and maintained online as the single authoritative source of soil survey information. Soils maps, interpretations and a natural color photo background are available and can be utilized by anyone with a computer and Internet access. The Web Soil Survey which receives about 3,200 unique visitors daily.

With the completion of the Warren County Soil Survey update in 2007, NRCS soil scientists have produced web soil surveys for twenty of New Jersey's twenty-one counties.

Soils Data Mart http://soildatamart.nrcs.usda.gov/ provides the most current data available in GIS format. GIS system users can download county data with soils lines, attribute data, and meta data for 19 NJ counties, as well as soil reports for mapping units they select.



Watershed Programs

New Jersey has over \$10 million in annual benefits of all types to both rural and urban beneficiaries from existing PL83-566 projects. The NRCS Water Resources Program in NJ is a composite of several program areas: Watershed Surveys and Planning, Watershed Rehabilitation, Watershed Operations, and Emergency Watershed Protection.

Swan Creek Watershed Preliminary Flood Damage and Mitigation

Download this report from www.nj.nrcs.usda.gov/programs/watersheds/watershed_special_projects.

The City of Lambertville, located along the Delaware River, had severe flooding in September 2004, April 2005 and June 2006. Over \$4.1 million of insured flood damages occurred during this time frame as well as the loss of one life.

The City has undertaken an effort to inventory and evaluate all potential sources of technical and financial assistance to mitigate the flood losses.

NRCS released a report detailing the findings from the study of the flood vulnerability of approximately 200 structures in or near the Swan Creek flood zone, which also included a preliminary evaluation of flood mitigation alternatives.



David DelVecchio, Mayor of the City of Lambertville, served on the New Jersey Flood Mitigation Task Force from 2005 to 2007 along with NRCS. Recognizing NRCS expertise, he approached the agency for assistance. "We could have

had an outside engineer, but they may not have been credible to the public if they were to make money on building the project," he said. After NRCS submitted the requested report, the City hired an engineering firm to develop a plan for a pumping plant. Permits and funding to build the pump plant are being pursued by the City. Funds received by Lambertville from an Urban Development Action Grant (UDAG) were used to reimburse NRCS for the study the agency performed.

Lockatong and Wichecheoke Creek Watershed Sediment and Phosphorus Source Report

Download this report from www.nj.nrcs.usda.gov/programs/watersheds/surveys and planning.

The New Jersey Water Supply Authority (NJWSA) indirectly provides approximately 65 million gallons of water per day to over 1.2 million people from the Delaware and Raritan (D & R) Canal. Annual public costs for both major and on-going maintenance dredging of the Canal, as well as increased water treatment costs due to sediment in the water amount to over \$3 million. The Wickecheoke and Lockatong Creek Watersheds were identified by NJWSA as an area for further study since they represent nearly 65 percent of the total contributing drainage area (in New

Jersey) to the D & R Canal.



Streambank Erosion on Lower Wickecheoke Creek

In 2005, the New Jersey Water Supply Authority signed a cooperative agreement with NRCS to identify the nature and extent of sediment sources and provide recommendations for their control within these watersheds. NRCS evaluated potential sediment sources including agricultural cropland, streambanks, road and road drainage networks, forestland and construction sites and estimated their relative contributions of sediment to the D & R Canal. NRCS also evaluated agricultural phosphorus sources within these watersheds. NRCS findings of this study are available on the New Jersey NRCS website.

Funding for this study was provided to NRCS by the NJWSA from a Section 319 (of the Clean Water Act) grant, as well as PL83-566 Watershed Protection and Flood Prevention Act funding.

Resource Conservation and Development (RC&D)

NRCS in NJ supports two locally sponsored independent RC&D Councils and their mission to accelerate the conservation, development and utilization of natural resources, improve the general level of economic activity, and enhance the environment and standard of living in their designated RC&D areas. With the assistance of an NRCS Coordinator, the RC&D Councils plan, develop and carry out programs for resource conservation and development.

North Jersey RC&D

(Sussex, Warren, Morris, Somerset, Hunterdon, Union Counties)

Visit them online at www.northjerseyrcd.org

In 2007, the Council:

- Launched two new watershed management planning projects in the Musconetcong and Neshanic Watersheds. Through these projects RC&D will work with partners to complete extensive water quality monitoring, modeling, identification of best management practices needed, as well as identify funding sources to implement the practices.
- Raised funds to complete stabilization of 185 feet of streambank in Warren County along the Lopatcong Creek. This project was



completed just upstream of our previous dam removal project here. The bank was regraded, and plant materials and erosion control mat installed. About 55 participants in an RC&D sponsored hands-on stream restoration workshop and NJ Youth Corps volunteers provided all the labor.

- Worked with 14 farmers applying for River-Friendly certification. Of these, three farmers have already met the criteria and become certified as River-Friendly Farms. The Certification Program gives recognition to farms which protect and enhance the Raritan Basin's rivers, lakes, and streams. Link to program information from the Council website.
- Planned and hosted a successful workshop entitled "A Practical Approach to Navigating the Stormwater Rules". Nearly 100 municipal government and other individuals attended this 8 hour program.
- Completed a riparian restoration project in Lafayette Park, Sussex County. Volunteers worked over 150 hours to plant and water 100 trees and shrubs.

South Jersey RC&D

(Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Middlesex, Monmouth, Ocean, and Salem Counties) Visit them online at www.sircd.org

In 2007, the Council focused on:

- FIVE YEAR PLAN The South Jersey Council looked strategically at ongoing projects and worked on implementing a new five year plan.
- WATER CONSERVATION The Council increased its lawn watering program from one area to four.
 This program reduced lawn irrigation by 25 million gallons in these four areas. The Council sends out emails to area newspapers and updates their webpage each day during the summer.
 Homeowners can view this page for accurate information on how much irrigation their lawn needs "today" based on area soils, plus evapotranspiration and rainfall from its onsite weather station.
- WILDLIFE HABITAT CREATION The Council's program "Team Habitat" planted warm season grasses on three sites to improve habitat for ground nesting birds. Team Habitat is a group of wildlife professionals from federal, state, local governments, and other non-profits that share farm and construction equipment that they use to plant, enhance, or maintain critical wildlife habitat.
- TOUR DES FARMS The Council had its inaugural Tour des Farms bike ride in Burlington County. This



bike ride promotes local farm products by giving each rider coupons or "Farm Bucks" to spend at local farm markets along the rides route. Nearly 200 riders participated in this year's event.

Farm Bill Programs in New Jersey



New Jersey received \$10,230,867 in 2007 through the Farm Security and Rural Investment Act of 2002 (Farm Bill) for eligible New Jersey landowners and agricultural producers through six funded USDA voluntary programs. This was a slight increase from the 2006 funding allocated for New Jersey. For the life of the 2002 Farm Bill, NJ has received over \$60 million in conservation program funding that has been transferred directly to NJ landowners and managers through the authorized programs. Program details are provided on our website at http://www.nj.nrcs.usda.gov/programs/.

Conservation Security Program (CSP)

CSP rewards producers who have demonstrated high levels of conservation and management on their farms by protecting soil and water quality. Producers in the Maurice-Cohansey and Raritan watersheds with contracts approved during 2005 and 2006 received \$198,769 in program payments in 2007. There was no funding available for new contracts in 2007.

Environmental Quality Incentives Program (EQIP)

EQIP provides financial assistance for permanent measures or management strategies that address existing resource concerns. NJ contracted with 90 producers using \$3,832,110 in 2007 funds to implement new conservation systems on 9,918 acres across the state.

NJ NRCS has funded six Conservation Innovation Grant projects through EQIP in the last three years to improve pasture management, manure management, and runoff from nursery operations. The 2007 grant for precision agriculture helped accomplish more precise applications of fertilizer and pesticides on cropland.

Farm and Ranch Lands Protection Program (FRPP)

FRPP provides matching funds to purchase conservation easements to keep productive farmland in agricultural uses. NJ received \$4,616,447 for 2007 which was passed on to two cooperating entities through Cooperative Agreements. The funding will allow the protection of over 3000 acres.

Grassland Reserve Program (GRP)

GRP offers private landowners the opportunity to protect, restore, and enhance grasslands on their property. With very limited funding available nationally, a special program targeting limited resource and beginning farmers was used to bring \$58,155 to one livestock operator in NJ in 2007. Technical assistance was provided to prior-year participants in order for them to complete their existing contracts.

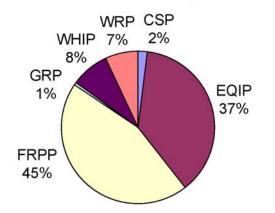
Wildlife Habitat Incentives Program (WHIP)

WHIP provides financial assistance to create, enhance or maintain five priority wildlife habitat types on non-federal lands. NJ received \$821,839 in WHIP funds for 2007 and signed 40 contracts with landowners and managers to provide wildlife benefits on 1,142 acres in 15 counties.

Wetlands Reserve Program (WRP)

WRP provides technical and financial assistance to enhance wetlands in exchange for retiring marginal land from agriculture. NJ received \$703,547 in 2007 which enabled the funding of two new permanent easement projects. These easements should close in 2008.

Also in 2007, NRCS began the restoration work at the Franklin Parker Preserve, the Northeast's largest WRP project site. The natural function of the soil in 100 acres of abandoned cranberry bogs was improved to allow the regeneration of native wetland species.



Federal Dollars by Program \$10.2 million total



Helping People Help the Land

Conservation in Middlesex County

Kip Stults has implemented many water-saving, soil erosion and water quality practices over the past ten years at his farm in Plainsboro and Cranbury Townships with technical and financial assistance from NRCS. He has installed drip and linear move irrigation systems, an underground irrigation mainline, grassed waterways, irrigation water management and integrated crop management to control water and chemical usage on his operation. He permanently preserved 93 acres of farmland in 1990.

At one time a potato farm, the Stults' operation has transitioned to crops that accommodate the diverse suburban population that now surrounds the farm. Kip and his wife Jill, with son Brian, daughter Amy and their families offer many of their crops at their farm stand or as pick-your-own products. Farm fresh products ranging from strawberries, peaches and blueberries to

tomatoes, sweet corn, mums and pumpkins, as well as ethnic favorites bittermelon and Romano green beans, are available to the local community. They grow grain and sod as well.



Conservation in Hunterdon County

The Fulpers farm in West Amwell Township. They were among the first in New Jersey to implement a no-till cropping system. Over the past 15 years, NRCS has provided assistance for many conservation practices installed on the home farm and on the



acreage that the Fulpers lease. With assistance through EQIP, a manure storage pond was constructed as part of a manure management system. Solids and liquids are separated, liquid nutrients irrigated onto the fields, and solids composted for onsite use as part of their comprehensive nutrient management plan. They also practice livestock exclusion and crop scouting. The Fulpers have preserved 360 acres of farmland.

Fred, Bob and Rob Fulper are active participants in the conservation planning process. They review NRCS proposed plans, ask questions, and work with the Soil Conservationist to arrive at a conservation plan that is practical and efficient. Once the planning process is complete, they waste no time in getting the implementation underway.

Recognizing the Importance of Pollinators

NRCS in New Jersey joined the national campaign to promote pollinators in 2007 by creating and maintaining a webpage (www.nj.nrcs.usda.gov/programs/whip/Pollinators), developing a technical note for conservation planners (Habitat Development for Pollinators), and by providing assistance for restoring habitat for pollinators in the "early successional habitat" provision through the Wildlife Habitat Incentives Program. On June 26, during National Pollinator Week (June 24 – 30), NRCS New Jersey participated in a news story with NJN News featuring a grassland restoration in Middlesex County.



grasshopper sparrow photo by Bob Devlin, used with permission

Franklin Township partnered with USDA, Natural Resources Conservation Service through the Wildlife Habitat Incentives Program (WHIP) to establish native grasses and wildflowers,



State Conservationist Tom Drewes interviewed by NJN News

enhancing grassland bird habitat at the Negri-Nepote Native Grassland Preserve in Franklin Township. Although barely a mile from the bustling Route 27 corridor in Somerset County, this preserve is robust with wildlife, wetlands and wildflowers. The township received payments for site preparation, seed purchase and planting, and also receives continued payments to maintain the native grass stands through "delayed mowing" and prescribed burning.

Dozens of species of birds have been identified at the restored grasslands and wetlands including redshoulder hawk, American kestrel, Northern harrier, American woodcock, green-winged teal and greater yellow-legs to the delight of local birders. The state threatened grasshopper sparrows were observed nesting at Negri-Nepote just one year after seeding the native grasses at the site.

For more on these and other projects, visit www.nj.nrcs.usda.gov/programs/Conservation_Success_in_New_Jersey.html



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