

# **Interdisciplinary Team (IDT) Field Trip Report**

**Blairstown, New Jersey**

**July 19, 2006**

United States Department of Agriculture  
Natural Resources Conservation Service  
220 Davidson Ave., 4<sup>th</sup> Floor  
Somerset, NJ 08873

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Attendees

Roger Gutzwiller, Chairman, Blairstown Township Environmental Commission  
Jeannette O'Brien, member, Blairstown Township Environmental Commission  
Olivia Coleman, lives on Bridge Street and has owned home for last two years  
Ted Rodman, Blairstown Township Engineer  
Tim Dunne, Biologist, Natural Resources Conservation Service (NRCS)  
Kent Hardmeyer, Soil Conservationist, NRCS  
David Lamm, State Conservation Engineer, NRCS  
Max Olynyk, Geologist, NRCS  
Ron Phelps, District Conservationist, NRCS  
ShayMaria Silvestri, Cultural Resource Specialist, NRCS  
Greg Westfall, Water Resource Planner, NRCS

Purpose of Field Trip and Identified Problems

The purpose of this field trip was to look at existing flood conditions in the historic village of Blairstown and to discuss the options and programs available to reduce flood damages that have occurred here three times (September 2004, April 2005 and June 2006) in the last 21 months. Flooding is largely due to two sources, namely the Paulins Kill and Blair Creek. The meeting was called as a result of a May 1, 2006 letter of request from Mayor Stephen J. Lance of Blairstown Township.

Jeannette O'Brien noted that, in her opinion, the Paulins Kill is filled with debris which causes the flooding to be worse. Blairstown is served entirely by individual septic systems. The flood water severely impacts the on-lot systems. The only exception to this is Blair Academy which has its own sewage treatment facility which outlets into Blair Creek above the town.

The meeting took place at the Rodman Associates Engineering Office at 19 Main Street, Blairstown with a subsequent tour of the flood damage area.

Background-Previous Studies

David Lamm noted that NRCS provided assistance to the Paulins Kill watershed communities to reduce flood damages through a watershed plan developed in 1958.

Three small watershed dams were built in its headwaters upstream of Newton. Also planned, but never installed, was a diking and channel improvement project of the Paulins Kill to protect Blairstown. The original plan for diking and channel improvement was not installed due to the unwillingness by the town to acquire the necessary land rights.

In 1971 a new plan, intended to avoid the environmental problems that would be associated with channel improvement on the Paulins Kill in the 1958 Plan, was developed. The plan included four interdependent components:

1. A small floodwater retarding structure located on Trout Brook upstream of the Methodist Church
2. Improvement of Blair Creek which would have consisted of widening and deepening the channel to provide enough capacity to contain floodwaters between the spillway at Blair Lake and continue to its outlet into the Paulins Kill
3. Diking and floodwalls along the Paulins Kill to prevent floodwater from entering Paulins Kill with flood gates on all pipes that outlet into the Paulins Kill
4. An expanded storm sewer system containing two ponding areas and two sets of pumps.

The 1971 plan was never implemented due to the municipality's reluctance because of initial costs and on-going operation and maintenance costs as well as continued unwillingness to acquire the necessary land rights.

### Discussion

Roger Gutzwiller noted that the large flood events seem to be occurring more frequently and that more upstream development and impervious surfaces may be exacerbating the situation. He stated that we might contain the situation today but it might not be solved in the future due to further upstream development.

Kent Hardmeyer asked what the Town is doing on debris removal. Roger stated that they don't get rid of the debris quickly enough. Greg Westfall suggested that the Town consider applying for the Emergency Watershed Program (EWP) funding after a storm-related event which has caused the need to restore the original stream channel via debris removal so that it is able to carry future storm event runoff. This program needs to be started within 30-60 days of a storm event with work to be completed within a short timeframe. Dave Lamm noted that general cleanup along the Paulins Kill may not qualify but rather debris removal from bridges, etc. might. Ted Rodman noted that the Town has historically removed trees from under the bridge.

Tim Dunne noted that after removing debris and cleaning a stream more water gets sent downstream and more flooding likely occurs for downstream neighbors. Max Olynyk noted that streams are dynamic features of the landscape which react when changes are made to them.

Olivia Coleman asked whether certain fields, like the state-owned property located downstream of Blairstown, could be used to divert and store floodwater.

Greg Westfall discussed the need to protect critical facilities including the fire station, emergency squad, post office, and other critical public facilities from flooding.

Greg Westfall asked how many property owners carry flood insurance through the National Flood Insurance Program (NFIP). Approximately \$220,000 has been paid to nineteen NFIP policyholders in Blairstown since the beginning of the NFIP Program in 1978. Ted Rodman noted that a lot of people do not carry flood insurance for various reasons. According to FEMA (Zocchi, July 24, 2006 and Rizzo, July 26, 2006) there are:

Number of NFIP Participants:	46 policies
19 paid/closed claims historically (excludes closed without payment).	
\$ Value of Insurance:	\$7,829,900
Number of Repetitive Flood Loss* Properties:	0
Severe Repetitive Flood Loss** Properties:	0
Community Rating System (CRS) Status:	Non-participating
* Two or more claims to the NFIP in the last 10 years(these statistics do not include any flood claims from the June 29, 2006 flood event).	
** Four or more claims that each exceeding \$5,000, with at least two of these occurring in a ten year period, and with total claims paid exceeding \$20,000 or Two or more claims payments that together exceed the property value	

Greg noted that the Delaware River Basin Commission has just received a FEMA grant from the New Jersey Office of Emergency Management to develop a flood mitigation plan for 64 municipalities in four counties (Mercer, Hunterdon, Sussex and Warren) in the Upper Delaware River Basin in New Jersey. Nationally approximately 50,000 structures of the total of approximately 4 million structures covered under NFIP account for over 50 percent of the annual flood insurance claims. In an effort to reduce the numbers of these structures, FEMA is targeting repetitive flood loss structures. Repetitive flood loss structures are those structures where the property owner has made two or more flood insurance claims to the NFIP. Greg noted that the Severe Repetitive Flood Loss Program is now making funding available to buyout those properties which have a flood claim history under NFIP of four or more claims of \$5,000 or more during the last ten years. Where repetitive flood loss properties exist, the plan would make municipalities eligible for Flood Mitigation Assistance Program and other FEMA-related program funding to perform such mitigation activities as elevating, relocating or buying out (where there is a willing property owner) structures. Greg noted that elevating structures is running minimally at \$120,000 per structure with some large, rambling structures running at nearly \$400,000. He referred the Blairstown

representatives to work done in the historic village of North Branch in Branchburg Township, Somerset County. Twenty one structures qualified for funding. Three were bought out and removed from the flood plain and approximately a dozen were elevated, some as much as a full story, above the flood plain in their existing location.

Olivia Coleman felt there was a need for more retention ponds. Ted Rodman noted that all towns are required to do stormwater management (detention, recharge and water quality) for new construction. It was noted that this does not address pre-existing development which has no stormwater management.

Ted Rodman noted that a nearby town (Knowlton) has serious problems with flooding and that he had just arrived from a meeting with NJDEP and FEMA people.

Greg Westfall noted that NRCS gauges the level of local interest in an NRCS PL83-566 (Watershed Protection and Flood Prevention Program) project by a number of things including the presence of elected officials at meetings such as this, willingness to develop and provide information and funding for the construction, operation and maintenance of any improvements. Greg noted that Lambertville (along the Delaware River) has recently asked NRCS to do a flood study and has made a significant financial commitment to get it started. Ron Phelps asked whether the local officials are willing to commit money. Jeannette O'Brien noted that they feel that there would be grants especially for a historic district such as this. Ted Rodman noted that there is currently a study on the dam which the Town owns on the Paulins Kill (Paulina Dam).

Roger Gutzwiller showed the group slides of the debris in the Paulins Kill and a map of Blairstown via his laptop computer.

The group took a walking tour of the flood damage area. The first stop was to the Blair Creek dam, owned by Blair Academy, which had significant erosion following recent flooding. The dam is currently in need of rehabilitation according to the State Dam Safety Official. Considerable damage occurred to the old stone mill just below the dam when flood water entered an old raceway and poured into the second floor of the building (recently a library). The group viewed Blair Creek downstream of this dam and noted that there are failed retaining walls in a number of locations which are acting obstructions to water flow in the event of a flood. In general, homes in Blairstown have basements made of quarried stone which has been mortared. The first floors tend to be approximately three to four feet above normal ground elevation with large (18" x 18" or 24" x 24") basement windows. The group walked Main Street to Bridge Street noting the storm drain catch basins which are rather shallow due to the poor outlet conditions. According to the Blairstown representatives at the meeting, number of properties on Bridge Street and Water Street have had first floor damages. Ms. Coleman, located on Bridge Street, had \$20,000 in basement content damages in September 2004. Ms. Coleman noted that she had had to drive their two cars to High Street while the floodwater was rising and then went back to the house into the waist-deep water in the basement and turned off the power to the house at the circuit breaker. It was noted that the Route 94 bridge over the Paulins Kill is above the 100 year flood elevation. The

group viewed the outlet of Blair Creek into the Paulins Kill and noted that there is a gravel bar at the downstream side the Route 94 bridge of Blair Creek as it enters into the Paulins Kill. It was suggested that either the New Jersey Department of Transportation or the Warren County Mosquito Commission may be willing to remove it upon request.

### Summary

Flooding has been historically a problem in Blairstown. The majority of the historic village of Blairstown is mapped as being in the 100 year (1 percent risk) flood zone. A 100 year flood, which does not necessarily occur once in a 100 years, is a measure of the relative risk of a flood occurring in any one year which is equivalent to a one (1) percent risk. In fact, approximately half of the village is within a mapped floodway where water velocity and depth can be significant during a flood event.

Flooding in Blairstown is due to at least two sources, namely, Blair Creek and Paulins Kill. The May 2, 1991 FEMA Flood Insurance Study notes that the most significant flood occurred in 1955 and when Paulins Kill and Blair Creek overtopped their banks and inundated the downtown area as water ran down Main Street. Severe damages from riverine flooding were also reported from the floods of 1869 and 1903. An 1892 Slabtown Creek dam failure caused flooding of some of the structures on Main Street. The National Flood Insurance Program flood claims show that flooding has occurred in 1979, September 2004, April 2005 and again in June 2006. Most flood damages have occurred to utility entrances located in basements as well as basement improvement and contents. Also, frequent flooding occurs to the recreation/ball fields adjacent to the Paulins Kill. The nature of the flooding and/or property owners participation in the NFIP is such that, to date, there have been no repetitive flood insurance claims.

### Conclusions

Flooding is a natural phenomenon. Floods cannot be prevented but flood damages can be reduced by proper planning and following the Township Flood Damage Prevention Ordinance. Opportunities exist to further reduce flood damages through individual property owner actions as well as from a number of programs and agencies.

## Recommendations

There are several things that the municipality and individual property owners could do as follows:

1. Property owners obtain and maintain flood insurance coverage.
2. Property owners have their electrical and phone utility entrances moved to the first or higher floors so that they are operable after a flood.
3. Property owners avoid improvements in basements and storing valuable contents in basements.
4. Municipality install flapgates on all stormwater outfalls to prevent flood waters from backing up into higher ground.
5. Municipality become a participant in the Community Rating System by doing some or all of 18 different types of activities to reduce flood vulnerability, to reduce flood losses and reduce individual property owner flood insurance premiums. For more information and possible participation contact the State NFIP Coordinator John Moyle or David VanTroost and check out the following website: <http://www.fema.gov/business/nfip/crs.shtm>
6. Municipality currently has a flood damage prevention ordinance (approved in 1983 and further amended in 1987) that should continue to be enforced so as to protect the continued eligibility of its residents to participate in the National Flood Insurance Program
7. Municipality conduct a property owner survey to identify those structures (by street address) as to their participation in the NFIP as well as who, where, when and how much flood loss (in dollars) has occurred.
8. Municipality become actively involved in the just-funded Delaware River Basin Commission four county, 64 municipality Flood Mitigation Assistance Program planning effort.
9. Following completion of a flood mitigation plan, the municipality formally request funding through one or more of several programs that would provide assistance to reduce flood damages. These programs generally require that there be a minimum 25 percent local match. Participation can occur by contacting your County Emergency Management Coordinator.
10. Municipality consider making a formal request to the NRCS State Conservationist, through your local District Conservationist Ron Phelps, reopen the Paulins Kill Watershed Plan for a supplement to the Plan that would include cost-effective measures to reduce flood losses including but not limited to those measures described in the above 1971 Plan.

### Additional Information and Contacts

Ms. Christine Musa  
Warren County Mosquito Commission  
PO Box 388, 2 Furnace Street, Oxford, NJ 07863-0388  
Phone: 908-453-3585  
Fax: 908-453-2662

### State NFIP Coordinator

John Moyle  
Flood Plain Management Section  
New Jersey Department of Environmental Protection  
501 East State Street  
Trenton, NJ

Phone: 609-292-2296  
E-mail: [john.moyle@dep.state.nj.us](mailto:john.moyle@dep.state.nj.us)

### Community Rating System Contact

Tom Brett  
ISO, Inc.  
1327 Old Meadow Road  
Pittsburgh, PA 15241

Phone: 412-221-4679  
Email: [tbrett@iso.com](mailto:tbrett@iso.com)

### Flood Mitigation Assistance Program, Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program

Mr. Frank Wheatley  
Warren County Office of Emergency Management  
1024 Route 57  
Washington, NJ 07882-9618  
Phone 908-835-2051  
E-mail: [fwheatley@co.warren.nj.us](mailto:fwheatley@co.warren.nj.us)

Delaware River Basin Commission (2006 FEMA Grant for Flood Mitigation Planning in 64 Delaware River Basin Municipalities)

Mr. Richard Fromuth  
Delaware River Basin Commission  
25 State Police Drive  
P.O. Box 7360  
West Trenton, NJ 08628-0360  
Phone 609-883-9500 X232  
E-mail [richard.fromuth@drbc.state.nj.us](mailto:richard.fromuth@drbc.state.nj.us)

PL83-566 Watershed Protection and Flood Prevention Program

Mr. Ron Phelps  
USDA Natural Resources Conservation Service  
Hackettstown Commerce Park  
101 Bilby Road, Building 1-H  
Hackettstown, NJ 07840  
Phone 908-852-2576  
[Ron.phelps@nj.usda.gov](mailto:Ron.phelps@nj.usda.gov)

<http://www.nj.nrcs.usda.gov/programs/watersheds/index.html>

## Emergency Watershed Protection Program (EWP)

The Emergency Watershed Protection Program (EWP) was set up by Congress to respond to emergencies created by natural disasters. It is designed to relieve imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. A Presidential disaster declaration is not required for EWP assistance to be provided. The USDA Natural Resources Conservation Service (NRCS) is responsible for administering the program.

### Frequently Asked Questions

#### *Is financial assistance available?*

NRCS may bear up to 75 percent of the construction cost of emergency measures. The remaining 25 percent must come from local sources and can be in the form of cash or in-kind services.

#### *What are the criteria for assistance?*

All EWP work must reduce threats to life and property. Furthermore, it must be economically and environmentally defensible and sound from an engineering standpoint. All work must represent the least expensive alternative.

#### *Who is eligible?*

Public and private landowners are eligible for assistance but must be represented by a project sponsor. The project sponsor must be a public agency of state, county, or city government, or a special district.

#### *What does the sponsor have to do?*

Sponsors are responsible for providing landrights to do repair work and securing the necessary permits. Sponsors are also responsible for furnishing the local cost share and for accomplishing the installation of work. The work can be done either through federal or local contracts.

#### *What kind of work can be done?*

EWP work is not limited to any one set of prescribed measures. A case by case investigation of the needed work is made by NRCS. EWP work can include: removing debris from stream channels, road culverts, and bridges; reshaping and protecting eroded banks; correcting damaged drainage facilities; repairing levees and structures; reseeding damaged areas; and purchasing floodplain easements.

*What can't EWP do?*

EWP funds cannot be used to solve problems that existed before the disaster or to improve the level of protection above that which existed prior to the disaster. EWP cannot fund operation and maintenance work, or repair private or public transportation facilities or utilities. EWP work cannot adversely affect downstream water rights, and EWP funds cannot be used to install measures not essential to the reduction of hazards. In addition, EWP funds cannot be used to perform work on measures installed by another federal agency.

*How do I get assistance?*

If you feel your area has suffered severe damage and may qualify under the EWP program, you are encouraged to contact your city or county government -- the most common sponsors of EWP projects. The sponsor's application should be in the form of a letter to the NRCS State Conservationist signed by an official of the sponsoring organization. The letter should include information on the nature, location, and scope of the problem for which assistance is requested. Information is available from NRCS offices to explain the eligibility requirements for the EWP program.

Hackettstown Service Center	Phone 908 852-2576 FAX 908 852-4666
Frenchtown Service Center	Phone 908 782-4614 FAX 908 782-0501
Freehold Service Center	Phone 732 462-1079 FAX 732 462-3499
Hainesport Service Center	Phone 609 267-0811 FAX 609 267-3007
Vineland Service Center	Phone 856 205-1225 FAX 856 205-0691
Woodstown Service Center	Phone 856 769-1126 FAX 856 769-0718

## EWP Floodplain Easement Facts

### Floodplain Easement Option

#### Background

Section 382 of the Federal Agriculture Improvement and Reform Act of 1996, Public Law 104-127, amended the Emergency Watershed Program (EWP) to provide for the purchase of floodplain easements as an emergency measure. Since 1996, NRCS has purchased floodplain easements on lands that qualify for EWP assistance. Floodplain easements restore, protect, maintain, and enhance the functions of the floodplain; conserve natural values including fish and wildlife habitat, water quality, flood water retention, ground water recharge, and open space; reduce long-term federal disaster assistance; and safeguard lives and property from floods, drought, and the products of erosion.

#### Land Eligibility

NRCS may purchase EWP easements on any floodplain lands that have been impaired within the last 12 months or that have a history of repeated flooding (i.e., flooded at least two times during the past 10 years). Purchases are based upon established priorities. Landowner applications for the program far exceed funding. NRCS maintains a list of easement offers that meet basic eligibility criteria at the time of application. These offers continue to be eligible pending availability of funding.

#### Easement Payments

Under the floodplain easement option, a landowner voluntarily offers to sell to the NRCS a permanent conservation easement that provides the NRCS with the full authority to restore and enhance the floodplain's functions and values. In exchange, a landowner receives the least of one of the three following values as an easement payment: (i) a geographic rate established by the NRCS state conservationist; (ii) a value based on a market appraisal analysis for agricultural uses or assessment for agricultural land; or (iii) the landowner offer.

#### Restoration of the Floodplain

The easement provides NRCS with the authority to restore and enhance the floodplain's functions and values. NRCS may pay up to 100% of the restoration costs. To the extent practicable, NRCS actively restores the natural features and characteristics of the floodplain through re-creating the topographic diversity, increasing the duration of inundation and saturation, and providing for the re-establishment of native vegetation. The landowner is provided the opportunity to participate in the restoration efforts. NRCS may pay 75 percent of the cost of removing buildings when appropriate.

## Landowner Use

Landowners retain several rights to the property, including quiet enjoyment, the right to control public access, and the right to undeveloped recreational use such as hunting and fishing. At any time, a landowner may obtain authorization from NRCS to engage in other activities, provided that NRCS determines it will further the protection and enhancement of the easement's floodplain functions and values. These compatible uses may include managed timber harvest, periodic haying, or grazing. NRCS determines the amount, method, timing, intensity, and duration of any compatible use that might be authorized. While a landowner can realize economic returns from an activity allowed for on the easement area, a landowner is not assured of any specific level or frequency of such use, and the authorization does not vest any right of any kind to the landowner. Cropping is not authorized and haying or grazing would not be authorized as a compatible use on lands that are being restored to woody vegetation.

## Program Signup Information

### Program Signup Forms Available Online

These documents are available in Adobe Acrobat format.

Form AD-1153, Application for Long-Term Contracted Assistance

Form AD-1154, Conservation Contract or Agreement

Form AD-1154A, Attachment A, General Contract Provisions

Form AD-1154B, Attachment B, Special Contract Provisions

Form AD-1155, Conservation Plan and Schedule of Operations

Form AD-1155A, Conservation Plan and Schedule of Operations, Signatures

Form AD-1156, Conservation Plan and Schedule of Operations Modification

Form AD-1161, Application for Payment

USDA Service Center EForms Web Site - for instructions and information

## Easement Forms Available Online:

Form AD-1157, Option Agreement to Purchase

Form AD-1157A, Option Agreement to Purchase, Amendment 1

Form AD-1158, Subordination Agreement and Limited Lien Waiver

Form AD-1159, Notification of Intent to Continue

Form NRCS-CPA20, Warranty Easement Deed

Form NRCS-CPA38, Request for a Certified Wetland Determination

Form NRCS-LTP13, Conservation Program Status Review

## Traditional Types of EWP Assistance

EWP provides funding to project sponsors for such work as clearing debris from clogged waterways, restoring vegetation, and stabilizing river banks. The measures that are taken must be environmentally and economically sound and generally benefit more than one property owner.

NRCS provides up to 75 percent of the funds needed to restore the natural function of a watershed and up to 90 percent in limited resource areas. The community or local sponsor of the work pays the remaining cost-share, which can be provided by cash or in-kind services.



# Blairstown Downtown Flood Hazard Areas

