



# The BUZZ

*A Quarterly Newsletter*

The BUZZ is a forum for Silver Jackets' team successes, opportunities and resources.

## Spotlight: Oklahoma Silver Jackets Coalition Focuses on Teamwork

By Ann Patton, NHNA member from Tulsa

Teamwork...it's the way to get things done.

That's the vision behind a new Oklahoma coalition named Silver Jackets. The Oklahoma Silver Jackets Team is creating a new national model for collaboration to foster sound floodplain and hazard management.

"The new Oklahoma Silver Jackets (SJ) Team links together our state, local, and federal governments with grassroots citizens and nonprofit groups into a partnership working on specific problems and projects," Gavin Brady, the state's flood program coordinator at the Oklahoma Water Resources Board (OWRB), said.

The Oklahoma initiative includes not only governments, but also diverse non-government partners. In addition to the OWRB, members of the evolving Oklahoma SJ Team include



Planners for the Tulsa pilot project for the Oklahoma Silver Jackets Team include (clockwise from left): Gene Lilly and Ed Rossman, Tulsa District Corps of Engineers; Ann Patton, Natural Hazard Mitigation Association; Chris Baker, Tulsa District; and Tim Lovell, Tulsa Partners.

the US Army Corps of Engineers, the Federal Emergency Management Agency (FEMA), Oklahoma Department of Emergency Management, Tulsa's city and county governments, Tulsa Drainage District #12, Oklaho-

ma Floodplain Managers Association, Tulsa Partners, and the Natural Hazard Mitigation Association.

Gene Lilly, a SJ manager from the Tulsa District USACE, noted that

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*“The people who live and work behind the levees need better protection, and we welcome the help of the Silver Jackets team.”*

Silver Jackets offers a common forum for leveraging resources that can address state risk management priorities. The state priorities to promote local risk management are identified in the 2012 Oklahoma Comprehensive Water Plan.

Ed Rossman, Planning Chief for the Tulsa District Corps, said that the team is taking advantage of SJ Pilot Project initiative by moving two projects forward. These include: an extended floodplain mapping project in Miami, OK and an innovative project focused on the Tulsa/West-Tulsa levees along the Arkansas River.

The Tulsa project is expanding Sim-Suite, a USACE geographic information tool, to help local governments plan risk-reduction and resilience measures including public education, emergency planning, and levee repairs.

“We’re particularly focused on an area behind the Tulsa/West-Tulsa levees that has a number of challenges,” said Tim Lovell, Executive Director of Tulsa Partners, a nonprofit that is working on education and outreach to residents in the area known locally as the Sand Springs Line. “We’re working to help the community understand the neighborhood’s risk and what can be done to mitigate those hazards along the river.”

The levees are in critical need of repair, said SJ Team member Todd Kilpatrick, levee commissioner for Drainage District 12 that manages the Tulsa/West-Tulsa levees. “The people who live and work behind the levees need better protection, and we welcome the help of the Silver Jackets team.”

The coalition is unique in that three new partners are working with the Oklahoma Silver Jackets pilot to help develop grassroots linkages at local and regional levels to create safe, sound, and resilient communities. In time, lessons learned from the pilot will be shared as widely as possible.

The new partners and their responsibilities are listed below.

- The [Natural Hazard Mitigation Association](#) (NHMA) is a national nonprofit organization that supports hazard mitigation and projects to reduce disaster losses and risk. Under the guidance of Executive Director Alessandra Jerolleman, NHMA is offering its broad base of mitigation experts and will document lessons learned.
- NHMA’s fledgling project named [Resilient Neighbors Network](#) (RNN) links together grassroots communi-

ties who are working to become safe, disaster-resilient, and sustainable. Through RNN, peer-to-peer sharing can help inform and inspire people who want to create better places to live. With NHMA leadership, ten communities across the U.S. are creating the RNN peer-to-peer network.

- [Tulsa Partners](#), a local nonprofit and member of both NHMA and RNN, is developing the local strategy to link the pilot projects with targeted neighborhoods.

Silver Jackets is the unifying force holding these diverse partners together while focusing their energy on a specific pilot project. The Oklahoma Silver Jackets is joining together with these three entities and others to create a broad partnership working with specific, vulnerable neighborhoods to raise risk awareness and encourage preparedness and mitigation.



## New Jersey Silver Jackets Relationships Assist Infrastructure Systems Recovery Support Function

On the morning of October 29, Sandy moved ashore near Atlantic City, New Jersey as a post-tropical cyclone with hurricane-force winds. USACE personnel were already staffed at the New Jersey Regional Operations Intelligence Center (ROIC) to provide recovery support.

The New Jersey Joint Field Office (JFO) was established on November 11, 2012, and on November 12, USACE deployed an Infrastructure Systems Recovery Support Function (IS RSF) Field Coordinator, Alicia Gould, New York District, under the National Disaster Recovery Framework (NDRF).

There are six overall Recovery Support Functions (RSFs); USACE is the coordinating agency for the Infrastructure Systems function and deployed Gould as the IS RSF Coordinator at the NJ JFO because of her role as her District's Flood Risk Manager and Silver Jackets Coordinator.

The NDRF defines how Federal agencies will organize and function to promote effective recovery in support of State, Tribal and other jurisdictions affected by a disaster. The framework seeks to fully leverage already existing Federal resources and authorities in conjunction with the full capabilities of

the public and private sectors to support community recovery.

The NDRF is a new initiative that was rolled out within each FEMA Region during the fall of 2012. The Silver Jacket Coordinators participated in these roll outs because of the close alignment of the program missions. The foundation of the NDRF and Silver Jacket Program is leadership and coordination, focusing on both pre- and post-disaster action.

Each agency within the Silver Jackets Team responded to Hurricane Sandy. A coordination call was held by Jason Miller, Philadelphia District, on November 6 to report out on ongoing activities. With the already established Federal and State partnerships developed through the NJ Silver Jackets Team, Gould could immediately focus on the mission of recovery.

On December 4, 2012, the Silver Jackets Team held a quarterly meeting at the NJ JFO. The team was briefed on the NDRF and met representatives from the other Recovery Support Functions.

There are two challenging outcomes expected from the Infrastructure Systems Recovery Support Function. The USACE is the coordinating agency that ensures the following:

- Resilience, sustainability, and miti-

gation are incorporated as part of the design for infrastructure systems

- Infrastructure systems are fully recovered in a timely and efficient manner to minimize the impact of service disruptions.

To date, the IS RSF has completed the draft Mission Scoping Assessment (MSA), which identifies infrastructure system impacts, recovery issues, and the potential resources for addressing recovery.

The RSFs within the Federal Disaster Recovery Coordination Team (FDRC), under the NDRF, work very closely with the Federal Primary and Supporting Agencies and State Partners to create the MSAs and work toward developing a Recovery Strategy for the State of New Jersey.

For more information about the NDRF: <http://www.fema.gov/national-disaster-recovery-framework>.



Taken by Matt Campbell, FEMA. This is the group briefing of the Federal Disaster Recovery Coordinator.

## Nevada: Silver Jackets in the Silver State

Members of the Nevada Silver Jackets, a multi-agency flood risk management team, gathered on November 8 in the state capital to attend a charter-signing ceremony. The Nevada team has been working together for more than a year, collaborating in flood mitigation, response, and recovery.



Jason King, team member and State Engineer, stated, "Often one agency doesn't have all the answers, but, in working with other state, federal, tribal and local agencies, we can share information and experience, leverage resources, and reach comprehensive strategies and solutions."

The following core agencies have signed the charter and pledged to review it annually: Nevada Division of Water Resources, Nevada Division of Emergency Management, U.S. Army Corps of Engineers, Federal Emergency Management Agency, U.S. Geological Survey, National Oceanic Atmospheric Administration, National Weather Service, and U.S. Department of Agriculture, Natural Resources Conservation Service.

The Nevada Appeal, a daily newspaper for the state capital, published an article following the signing event that stated, "When the left hand of government does not know what the right hand is doing,

sitcoms and tragedies are born. A new partnership between federal and state agencies aims to let both hands know what the other is doing."

The article further stated that, with federal government funds shrinking, the simple act of working together is a way for agencies big and small to fund and complete projects and to avoid competing with one another for limited federal budget resources.

"When agencies choose to communicate, they all find a wealth of information, data, and knowledge in each other," said Judy Soutiere, USACE and Silver Jackets team member.

The Silver Jackets team format will lend itself to sharing information such as high water records, topographic mapping, hydrologic and hydraulic modeling, and flow information among the various agencies.

By combining the data collected by the various agencies, better flood maps and predictions can be made. As Steve Berris from the USGS noted, "We can leverage resources to get something better."

With only five team meetings so far since its inception, there still is a learning curve among the members. Kim Davis,



Nevada's Floodplain Manager from the Division of Water Resources (DWR), said, "We've been in a phase of learning about each other, as well as about agencies' authorities and limitations."

Under the coordination and facilitation of the DWR, the team is committed to meet twice a year and will convene additional meetings as necessary.

In the event of a major flood event, most of the significant relationships with federal, state, and some local agencies will be in place so that after a disaster the team can hit the ground running to work on such activities as the development and implementation of a post-disaster mitigation action strategy.

"One of the purposes of building a Silver Jackets team is to make a friend before you need a friend," Ms. Soutiere said, reiterating a theme from the recent Flood Risk Management and Silver Jackets Workshop.

## Communities to Showcase that Flooding Can and Has Happened

### Know Your Line: Be Flood Aware

By Lauren Leuck, IWR USACE

Significant opportunities exist for individuals to prevent damage from flooding, the most common and costly natural disaster in the country. The Federal Emergency Management Agency (FEMA) and seven other federal agencies concerned about flood risk are working with local officials to help their residents do just that.

Together, this federal working group is developing a turnkey outreach initiative to assist local officials in elevating the issue of flood risk within their communities. The initiative, “Know Your Line: Be Flood Aware,” will help communities showcase their local history of flooding and motivate residents to take action.

The Know Your Line initiative encourages local officials to post high water mark signs in prominent places, such as on a city hall, library, and tourist attractions, throughout their community to identify how high flood waters have risen in the past. Communities will then be encouraged to hold a high profile event to announce the initiative to be followed by supporting activities to continue to remind residents of their flood risk and prompt them to take steps to reduce it.

#### “It Won’t Happen Here”

Over 30 years (the length of a typical mortgage), there is a 26 percent chance

of a 100-year or greater flood occurring. But residents and businesses often take few, if any, steps to protect themselves from these potentially life-changing events, opting instead to trust that, “It won’t happen here.”

The majority of local officials understand that flooding not only can happen here, but that it likely has. Whether a community experienced severe flooding a century ago or just last spring, showcasing the dramatic outcome of a community’s most severe flood can offer a powerful testimony and daily reminder to residents and businesses – empowering them to understand the consequences of flooding and reduce their risks before the next one.

FEMA found, through its 2011 nationwide survey of homeowners, that citizens expect to hear about flooding from their local officials. As a result, local officials have a unique opportunity to raise awareness of flooding risk in their community. Communities that reach out to the public to help prevent the effects of flooding:

- Underscore their commitment to the well-being of residents and the local business community,
- Galvanize their community to take steps now to reduce the often devastating impact of floods,
- Can receive Community Rating System Rating (CRS) points to reduce the cost of flood insurance, and

- Can put federal and state mitigation assistance funds to work.

To gain local officials’ perspectives on the elements of the Know Your Line initiative, FEMA and its partners are launching up to six pilots. These pilot communities will be the first to review the initiative’s tools and materials and will provide insight into the campaign prior to the national roll-out.

Members of the Federal working group will work with the pilot communities to tailor a strategy and materials to suit the community’s needs, provide recommendations and consultation on implementation activities, and provide recognition to pilot participants online and at conference and trade association meetings.

Following the pilots, the working group will further refine the approach and offer the Know Your Line initiative’s strategy, tools, and relationships to communities nationwide.

To find out if there is a pilot in your state or to find out more about this campaign, visit the initiative’s new website at: <http://www.fema.gov/know-your-line-high-water-mark-initiative>. You can also email [Lauren Leuck](#), USACE, or [Vince Brown](#), FEMA, to get additional information. Silver Jackets teams are encouraged to discuss this initiative and contact Vince or Lauren about getting their communities involved.

#### Agencies Supporting the Know Your Line Initiative

- Federal Emergency Management Agency
- National Oceanic and Atmospheric Administration
- National Park Service
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture
- U.S. Department of Housing and Urban Development
- U.S. Geological Survey
- U.S. Small Business Administration

## Community-based Hydrologic Warning Systems

By Glenn Austin, *Executive Director, National Hydrologic Warning Council*

Annual flood losses in the nation are close to \$10 billion, even without factoring in damages following Super Storm Sandy. The National Flood Insurance Program provides money to compensate for approximately only \$1.5 billion of those flood losses.

Effective use of Community-based Hydrologic Warning Systems (CHWS) placed in strategic locations nationwide could provide an additional 20 percent flood loss reduction. These are opportunities that must not be ignored.

Authorities of different state and federal agencies will want to encourage community participation in CHWS to lower flood insurance claims and reduce the need for state and federal disaster aid.

Warning systems allow for early detection of a flood threat, increase the emergency response time, and lower the overall impact. The first automated Community-based Hydrologic Warning Systems were implemented about 35 years ago.

Recent advances in hardware, software, and telecommunications have increased the reliability of CHWS tremendously.

While systems vary, components such as data collection, modeling, forecasting, and hazard communication are common.

A good example of a flood warning system is the [Susquehanna Flood Forecast and Warning System](#) that covers communities in the Susquehanna River Basin across portions of New York, Pennsylvania, and Maryland. The following is from their website and shows the benefit of the system to those living in the basin:

*The winter flash flood of 1996 could have been much worse, but early warnings saved lives and an estimated \$100 million in property damage:*

- *Wilkes-Barre, PA, got [six] hours warning, allowing 110,000 people to evacuate.*
- *Harrisburg got [four] hours warning, giving officials time to implement emergency management measures.*
- *U.S. Army Corps of Engineers dams held back 167 billion gallons of floodwater, averting another \$1.3 billion in damages.*

Community-based Hydrologic Warning Systems are applicable for coastal, river, flash flood and urban flood reduction

strategies. CHWS also provide a measure of risk reduction for dams, making use of current technology to remotely monitor water levels, rainfall, and other conditions in real-time, and notifying key officials of hazardous flooding conditions.

Inundation mapping applications are making their way into modern warning systems as these visual tools make it easier for hazard recognition by officials and citizens alike.

At the same time, mobile communication technologies (e.g., iPads) are being integrated into CHWS operations enabling data acquisition and delivery to/from those deployed in the field.

The [National Hydrologic Warning Council](#) (NHWC) provides training, guidance, and standards while serving as a national voice of the hydrologic warning community. Since 1993, the NHWC has been assisting community officials by providing expert advice on the use of real-time, hydrologic information from automated remote data systems with the goals of protecting lives, property, and the environment.

The multi-agency coordination requirements to fully plan for and implement

*Effective use of Community-based Hydrologic Warning Systems placed in strategic locations nationwide could provide an additional 20 percent flood loss reduction.*

CHWS encourages State Silver Jackets teams to get involved. Members are invited to contact the NHWC for help to provide information on how to evaluate the need for a CHWS and suggest different options when designing a system.

ing public outreach. The hydrologist at your local [National Weather Service](#) office can provide expert help, including assisting in establishing rainfall and river stage alarm thresholds and enhancing warning plans.

Advice is also available for establishing emergency action plans and conduct-

A great way to learn more about the benefits of CHWS is to attend the [NHWC](#)

[2013 Conference](#) in June in Ponte Vedra, Florida. A multi-disciplinary program will appeal to a variety of professionals. Concurrent tracks in the agenda will cover planning, preparations, response, recovery, lessons learned, communications, outreach, research, innovations, and field technician training.

*CHWS encourages State Silver Jackets teams to get involved.*

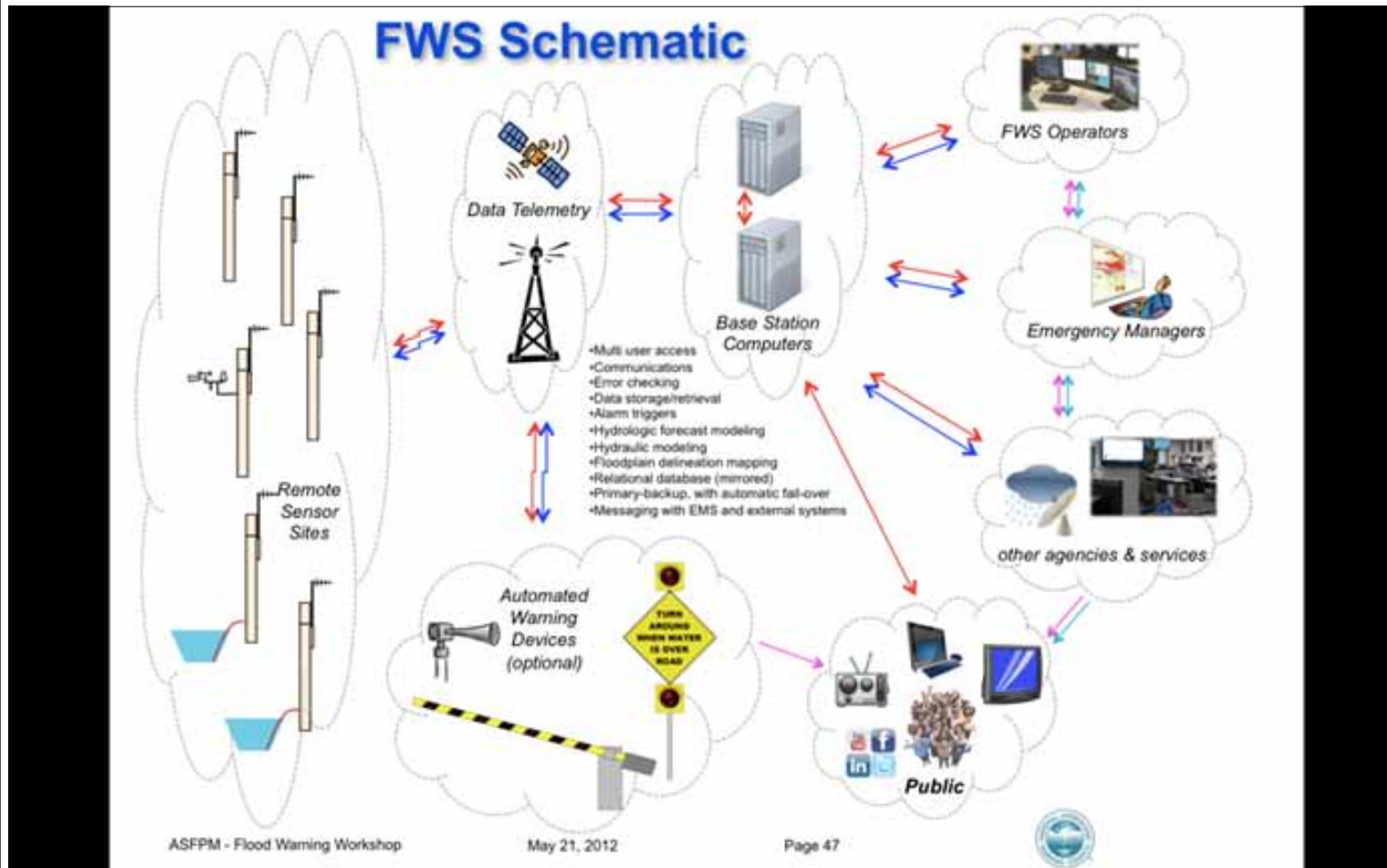


Diagram showing typical components of a Flood Warning System



## The Great Flood of 1913 Not To Be Forgotten – Outreach Activities in the Works

By Laura Ortiz, Buffalo District USACE, and Sarah Jamison, NWS Cleveland Office

In the July 2012 Silver Jackets newsletter, Sarah Jamison, Service Hydrologist from



*No one agency could have developed such a far reaching outreach campaign from the ground up.*

the National Weather Service (NWS), provided background information on the Great Flood of 1913 and highlighted a campaign to raise public awareness. Planning for the yearlong public awareness campaign is now underway as Silver Jacket teams in Ohio and Indiana are making progress coordinating events to commemorate the 1913 disaster.

The purposes of this outreach campaign are threefold: first, to remind people of the dangers of flooding through images and stories of this historic event; second, to inform the public on what is being done on a local, state, and federal level to protect and mitigate from future floods; and, third, to raise people's awareness of the Silver Jackets and the importance of a team approach to solving flood risks.

These topics are universal for all Silver Jackets teams that support flood risk management. Collaboration among federal, state, and local flood agencies is the key to planning these outreach events.

The NWS Cleveland Office, the key driver in this event, contacted surrounding states impacted by the floods and encouraged the Indiana Silver Jackets team to join the effort. Coordination among the Silver Jackets teams has been tremendously beneficial and has resulted in the sharing of information, ideas, and resources.

Each team has developed "1913 outreach" sub-committees or groups to coordinate and organize each event. The teams are working to incorporate outside agencies, such as state historical societies and universities and academia, to support the 1913 outreach campaigns and reach a broader audience.

The "meat and potatoes" of this outreach campaign will be relayed through the Internet as an effective means of reaching a broader audience. Since this historic flood event occurred in several states, the Silver Jackets teams have worked with the Midwest Regional Climate Center to serve as a host for the "[Great Flood of 1913](#)" website, set to launch in February

2013. The site will serve as a one-stop shop for the media, public, and researchers on information about the storm.

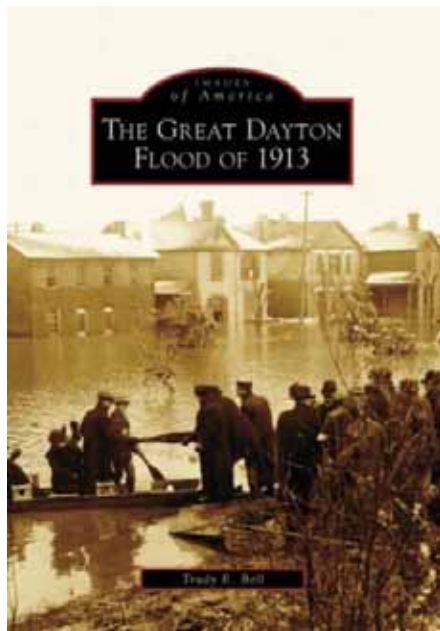
In addition to information and pictures of this weather event, information on flood preparedness and mitigation will be posted along with information about the Silver Jackets agencies and programs. The U.S. Geological Service (USGS) of Indiana has taken the lead on a 1913 Facebook and Twitter page, which will be used to announce activities and to spread the message.

The first event in Ohio, a press conference, will kick off the yearlong effort on March 18, 2013, which is almost to the day of the anniversary of the Flood of 1913. This Press Conference will be held in Columbus, Ohio.

Following this, there will be a symposium at Ohio State University (OSU) on March 22, 2013, held as part of the OSU meteorology club's annual Severe Weather Symposium. Since the 1913 flood remains the worst disaster in Ohio's history, two hours have been allocated for Silver Jackets representatives to present.

Christopher Thoms, Ohio Department of Natural Resources Floodplain Manager, and Steve Ferryman, Chief of the Miti-





Above: Sarah Jamison from the National Weather Service, Trudy Bell, author of *The Great Dayton Flood of 1913*, and Kim Shaffer from the Ohio USGS attend the WMAO Conference that focused on the 100 years since the flood.

gation Branch within the Ohio Emergency Management Agency (OEMA), will cover the historical aspects of the storm. NWS Service Hydrologists, Sarah Jamison and Julie Dian-Reed, will cover the meteorology of the storm and the impacts around Columbus. A representative from the Ohio River Forecast Center (OHRFC) will provide an overview on the hydrology of the event.

The Indiana and Ohio Silver Jackets teams are working to develop a regional fall conference in Dayton, Ohio. This Silver Jackets event will take place at

the University of Dayton River Institute or the Dayton Historical Society and will be open to the public. This event will focus on how Silver Jackets agencies would handle flood mitigation and preparedness today if faced with a flood comparable to the one in 1913.

This question often comes up about what would happen if a similar storm occurred today. To help answer this, the NWS OHRFC ran a simulation of a comparable storm moving over the same portions of the Ohio Valley today for select locations. The resulting information is being used to help the NWS and USGS pre-

pare their programs for future significant floods. The information is also available in a controlled environment for use in a possible storm exercise to be facilitated by OEMA.

No one agency could have developed such a far reaching outreach campaign from the ground up. It is only through cooperation and commitment of the federal, state, and local Silver Jackets team members that this outreach campaign has been made possible. Understanding the objectives and approaches taken in this campaign may benefit other states in their future campaigns.

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## American Rivers – A Potential Flood Risk Management Partner



By Lisa Hollingsworth-Segedy, AICP, Associate Director for River Restoration, American Rivers' Western PA Field Office

You might be familiar with American Rivers because of our history of advocacy for the Wild and Scenic Rivers Act or for our Most Endangered Rivers™ list every year. Perhaps you know us from our involvement in the Hydropower Reform Coalition, or the recent large dam removal projects in the Pacific Northwest and on the Penobscot River.



Connoquenessing Creek in Jackson Twp, PA, before and after the removal of the Harmony Junction Dam. This project has significantly reduced flood hazard in the community. (photos: Lisa Hollingsworth-Segedy, American Rivers)

But did you know that American Rivers is involved with both policy and on the ground projects that provide natural and nonstructural solutions for flooding? Some examples of our work from across the country include the Bay Delta Conservation Plan, the Dutch Slough Tidal Marsh Restoration Program, and the [Milwaukee Metropolitan Sewer District Green Infrastructure Partnership](#).

In Pennsylvania, American Rivers has completed a number of dam removals that have significantly reduced the size of flood hazard areas, including dams in Jackson Township (Butler County), Grove City Borough (Mercer County), the Village of Brave (Greene County), and Upper Darby Township (Philadelphia metro area).

American Rivers advocates natural

and nonstructural flood reduction techniques for many reasons. Natural flood protection can be attained by protecting and restoring wetlands and floodplains and by restoring a river's natural flow and meandering channel. Giving at least some floodplain back to a river will give the river more room to spread out.

Furthermore, wetlands act as natural sponges, storing and slowly releasing floodwaters after peak flood flows have passed. A single acre of wetland, saturated to a depth of one foot, will retain 330,000 gallons of water, enough to flood thirteen average-sized homes thigh-deep. Additionally, coastal wetlands reduce storm surge and slow its velocity.

Maintaining and restoring healthy rivers, wetlands, and floodplains provides a host of other benefits, as well as the reduction of flood risk. These systems:

- **Provide Clean Water**  
Wetlands and floodplains serve as natural filters, absorbing nutrients and other pollutants from water and making rivers healthier for drinking, swimming, and supporting plants and animals.
- **Control Erosion**  
Floodplain trees and plants anchor river banks, preventing bank erosion. Erosion can lead to increased flood heights as sediment raises the level of the riverbed as it settles. Excess

sediments can also cloud river water and coat the leaves of aquatic vegetation, depriving them of sunlight. Too much sediment also directly impacts human health by fostering the growth of bacteria.

- **Sustain Commercial Fisheries**  
Wetlands and floodplains support a multitude of animal life that is the mainstay of the nation's multi-billion dollar fisheries industry.
- **Support Recreation**  
More than 82 million hunters, fishermen, bird enthusiasts, and photographers spend \$59.5 billion in the United States each year.
- **Provide Vitally Important Habitat**  
Seasonally inundated wetlands are some of the most biologically productive ecosystems in the world. More than one-third of federally threatened and endangered species live only in wetlands, and up to 43 percent of them rely directly or indirectly on wetlands for their survival. Over 70 percent of all vertebrate species rely upon land along the river's edge, the riparian zone, during their life cycle.

American Rivers hopes to strengthen our involvement with Silver Jackets as we work to identify and implement viable flood risk solutions that also provide important ecosystem and community benefits.

## Cost-of-Flooding Tool Puts Risk into Perspective

### By FloodSmart

As Silver Jackets teams progress with leveraging multi-agency resources to implement sound flood risk management, helping property owners understand their flood risk and getting them to take action to reduce it remains an ongoing challenge.

Simply telling homeowners that they are at risk for flooding often isn't enough to inspire them to purchase flood insurance to financially protect their most prized investment—their homes.

The [Cost of Flooding Tool](#) available on [FloodSmart.gov](#) is a free resource to show residents the high cost of repairing a home and replacing its contents after a flood.

The average flood claim paid out by FEMA between 2007 and 2011 was more than \$33,000. With more than 20 percent of claims filed in moderate- to low-risk areas, it is imperative to communicate the financial impact of a flood.

The Cost of Flooding Tool simulates different depths of flood water in a home and then calculates the estimated repair and replacement costs for standard household items and structural damage resulting from a flood.

When launching the tool, the user chooses from two home sizes and selects the depth of the flood—from one inch to four

feet. The tool shows an animation of the flood and the estimated cost of total losses. Expected losses are broken down into an itemized list that includes appliances, furniture and cleaning costs.

A 2-inch-deep flood in a 2,000 square foot home would cause an estimated \$21,000 in damages, while a 1-foot-deep flood in the same sized home would cause an estimated \$52,000 in damages.

At the end of the simulation, the user can enter a ZIP code, and the tool displays a list of nearby agents registered in the NFIP's free [Agent Referral Program](#). From there, users have the option either to call the agent or send the agent an email.

Flood insurance is available to residents and business owners in both high and moderate- to low-risk areas. It is an important way to reduce the financial impact of flooding. In some cases, a Preferred Risk Policy can provide a low-cost option for homeowners with annual premiums starting as low as \$129 for both building and contents coverage.

The [Cost of Flooding Tool](#) is available for

download through FloodSmart's [Community Resource](#) page. It can be easily embedded into a website.

FloodSmart encourages stakeholders such as floodplain managers, zoning officials, emergency management officers and others to use the Cost of Flooding tool. Silver Jackets teams are important resources in helping these stakeholders understand the risks and steps that can be taken to address them.

This tool, in addition to other [tools and resources on FloodSmart.gov](#), will assist in educating communities about flood risks and residents about the need to purchase policies that will help reduce the financial impact of flooding.

*Silver Jackets teams are important resources in helping these stakeholders understand the risks.*

**The Cost Of Flooding**

Embed This

Computer Accessories	\$80
Washer/Dryer	\$130
Accent Furniture & Accessories	\$130
Loss of Personal Items	\$500
<b>Total Losses</b>	<b>\$22,590</b>

3 inch flood

FIND AN AGENT

See 1,000 Square Feet

Estimates are for illustrative purposes only and should not be used to estimate any actual flood loss. A flood certified insurance adjuster making a room-by-room item-by-item, detailed estimate of covered flood damage is the only estimating method approved by and acceptable to the National Flood Insurance Program. These estimated costs are based on an average U.S. home of 1,000 and 2,000 square feet, built on a slab and with typical household items. Costs vary from State to State and home to home.

NATIONAL FLOOD INSURANCE PROGRAM

## Integrated Water Resources Science and Services

By Mary Mullusky, *Chief of Hydrologic Services Branch, NOAA's National Weather Service*

Integrated Water Resources Science and Services ([IWRSS](#)), pronounced “eye-ris”, is a new business model for interagency collaboration consisting of a consortium of federal agencies with complementary missions in water science, observation, management, and prediction.

*IWRSS serves as a reliable and authoritative means for adaptive water-related planning, preparedness, and response activities.*

The overarching objective of IWRSS is to enable and demonstrate a broad, integrative, national water resources information system to serve as a reliable and authoritative means for adaptive water-related planning, preparedness, and response activities.

The leaders of NOAA, the U.S. Army Corps of Engineers, and the U.S. Geological Survey formalized the partnership in May 2011 by signing a Memorandum of Understanding for the Collaborative Science, Services, and Tools to Support Integrated and Adaptive Water Resources Management. Since then the agencies began working to align programs and set up management mechanisms to support IWRSS implementation, guided by a draft roadmap.

Three areas of collaboration were identified as top priorities: developing and



Dr. Jane Lubchenco, NOAA Administrator (left), The Honorable Terrence (Rock) Salt, Principal Deputy Assistant Secretary of the Army for Civil Works (middle), and Dr. Marcia McNutt, Director of the U.S. Geological Survey (right) shake hands after signing a Memorandum of Understanding. This was during a ceremony at Georgetown Waterfront Park, near the Potomac River streamgauge in Washington, D.C.

delivering flood inundation mapping (FIM) services, improving the interoperability of data and systems, and developing a joint, earth system water modeling framework. Charters for two interagency teams were signed in July 2012, and the teams began working together in the fall of 2012.

A FIM team is currently focused on

defining requirements and technical specifications for static and dynamic inundation mapping services. In addition, a System Interoperability Team is defining requirements for the standardized, seamless, secure, real-time communication of critical water information exchange across partner agencies.

Both teams are expected to provide re-



IWRSS Stakeholder forum with the Delaware River Basin Commission held December 13, 2012 at the DRBC office in West Trenton, NJ.

ports by summer 2013. A third charter under development will guide the efforts of a team to define requirements for a joint, earth system, water modeling framework.

IWRSS outreach and stakeholder engagement is also underway to better understand water resources information needs and establish a plan to conduct an IWRSS demonstration project in the Northeast involving four major stakeholders including the following:

- Interstate Commission on the Potomac River Basin
- Delaware River Basin Commission
- Susquehanna River Basin Commission

- Hudson River Watershed Alliance

The first phase of this effort will be to conduct stakeholder forums with these groups in FY13 to validate existing gaps and also identify new gaps in water resource services.

The National Water Center (NWC) will serve as a cornerstone for IWRSS and provide a central hub to integrate and advance regional field operations and services.

Located on the campus of the University of Alabama in Tuscaloosa, the National Water Center will enable NOAA to expedite the implementation of new data capabilities, models, and decision-support tools and produce, in concert with field offices and federal water



partners, the comprehensive information needed to support next-generation adaptive water planning, preparedness, and response activities. Construction began in February 2012 and is expected to be completed in July 2013 with occupation in September 2013. Planning is underway to achieve “Initial Operating Capability” by mid-2014.

Silver Jackets teams are in an ideal position to validate and test emerging collaborative concepts and prototypes borne from the Flood Inundation Mapping and System Interoperability scoping, design and development teams, and future inter-agency teams. For more information on how your Silver Jackets team can utilize IWRSS, please contact your NWS SJ team member.

*Silver Jackets teams are in an ideal position to validate and test emerging collaborative concepts.*



## Excellence Will Be Recognized

Exceptional individuals and an outstanding Silver Jackets team who exemplify the goals of effective flood risk management will be recognized and honored at the 2013 Summer Senior Leaders Conference.

As was done for the 2012 awards, the team awardee will be determined solely by peer team voting. Once received, the team nominations will be posted to the Silver Jackets website for consideration

by their fellow state teams.

Please take advantage of the opportunity to nominate that previously unrecognized, but dedicated team and individual who has moved us forward in managing flood risks.

Expect an email from your Silver Jackets coordinator in the coming weeks. Guidance will be posted on the Silver Jackets website for more details.



Stacey Underwood from Baltimore District receives award for Silver Jackets Coordinator of the Year from MG Walsh.

## Upcoming Events

### FEBRUARY

[Wisconsin Wetlands Association 18th Annual Conference](#), Madison, WI, February 12-14

### MARCH

[Virginia Water Conference](#), Richmond, VA, March 3-5

[Michigan Stormwater Floodplain Association Conference](#), Battle Creek, MI, March 6-9

### APRIL

[Engineers Virginia Symposium](#), Lexington, VA, April 9-11

### JUNE

[National Hydrologic Warning Council 2013 Conference](#), Ponte Vedra, FL, June 3-6

[37th Annual Conference of Association of State Floodplain Managers](#), Hartford, CT, June 9-14

### SEPTEMBER

[California/Nevada/Hawaii Floodplain Management Association's Annual Conference](#), Anaheim, CA, September 3-6

### DECEMBER

National Association of Flood and Stormwater Management Agencies 2013 Annual Conference and Expo, San Francisco, CA, December 9-11



US Army Corps  
of Engineers