



Galveston District Conducts Feasibility Study to Protect Texas Coast

Moving the National Flood Risk Management Program Forward

Sponsor Engagement and Risk Communication for Levees



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Moving the National Flood Risk Management Program Forward

A cross-disciplinary team has discovered opportunities for integrating flood risk management practices with triple bottom line concepts – recognizing the need to keep in mind the complex feedback loops associated with the health of our social networks, our natural environment, and our economy.

Communication for

The USACE Levee Safety Program's pending release of the results of more than 1,500 Screening Level Risk Assessments and associated risk characterizations to levee sponsors will require a remarkable effort by USACE staff to ensure the results are understood clearly and encourage shared responsibility.

Sponsor

and Risk

Levees

Engagement







On the Cover

Galveston District Conducts Feasibility Study to Protect Texas Coast

The Galveston District along with other partners will analyze findings from the ongoing Coastal Texas Protection and Restoration Feasibility Study in order to better protect the Texas coast from natural disasters. The feasibility study aims to objectively identify strengths and weaknesses of proposed plans as well as opportunities and threats to the environment and economy.

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Winter Flooding Brings Success Stories

By Mark Roupas, Deputy Chief, Office of Homeland Security



Greetings! I want to take this opportunity to reflect briefly on some of our experiences, and in particular, our success stories, from the Winter Flooding we experienced a few months ago. As many of you know, much of the country experienced some degree of flooding in late December and early January. We had heavy rainfall from the middle to lower Mississippi Valley and eastward through much of the Ohio River basin. In the Great Lakes and Ohio River Division, this led to widespread minor to moderate flooding, with major flooding occurring in a few locations. Flooding throughout the Mississippi Valley Division was significant in many locations. Flow forecasts during the event on the Mississippi River and major tributaries (including major flooding on the Arkansas River) required evaluation of the need for use of MR&T project floodways, including analysis of Birds Point, Morganza, and Bonnet Carre. Ultimately, only Bonnet Carre spillway was used in addition to the normal 70/30 flow distribution through the Old River Control Complex.

We also had our Southwestern Division, South Atlantic Division, and Northwestern Division engaged in flood fights. In the northwest, we had 12 non-federal levees overtop into largely agricultural areas. In the southwest, we had nine reservoirs exceed 100% flood stage; fortunately, there were no significant impacts. In the South Atlantic Division, heavy rain led to widespread riverine flooding, though mostly at the minor to moderate flood level. The operation of many reservoirs within the South Atlantic Division was required to manage this flooding.

"I wanted to take this opportunity to offer a reminder to make sure we identify and include all of our partners in flood risk management and that we fully think through the lifecycle of flood risk management as we identify those partners."

Though the flooding kept us very busy, and recovery is ongoing, there are a number of success stories and innovative ideas that came out of this experience that I wanted to highlight. The first of these is the importance of coordination. This involves coordination at all levels, with affected communities, with state government agencies, with other Federal agencies, and with nongovernmental partners as well. Throughout the winter flood events, we had to coordinate with multiple agencies, given the widespread nature of the flooding, but one Federal partner agency that caught my eye was the Tennessee Valley Authority. Very close coordination was needed between the Great Lakes and Ohio River Division and the Tennessee

Valley Authority to coordinate the release of water at various reservoirs that both agencies own. When I think of our Federal partners for flood risk management and the activities we coordinate to conduct, this is not necessarily one that comes immediately to mind. I wanted to take this opportunity to offer a reminder to make sure we identify and include all of our partners in flood risk management and that we fully think through the lifecycle of flood risk management as we identify those partners.

I also wanted to highlight a newer innovative partnership that was quite helpful in the southwest. In the Southwestern Division, we used our partnership with the Civil Air Patrol to obtain aerial photographs of flood impacts. Through this partnership, we were able to document areas along the Arkansas River that were impacted by high water elevations. In September 2015, we entered into a Memorandum of Agreement with the Air Force and the Civil Air Patrol that offers us the support for post-disaster assessment flights, among other things. This is a resource that many may still be unaware of, so I would encourage you to consider how you might be able to leverage this additional resource in the future.



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Another innovative use of technology that should be highlighted as a success story comes from the Little Rock District, within the Southwestern Division. The Little Rock District developed a smartphone app in 2012 (which was available for both Apple and Android platforms) that provides information to the public about river and lake water levels. This app was originally envisioned as a tool for recreation users at reservoirs; however it has proven to be very useful during flood events as well. On an average day without flooding, the app sees approximately 900 users. During flood situations; however, the app sees approximately 15,000 users per day. The use of this app has led to significant reduction in phone calls and email enquiries about water levels, which has freed up staff time for other critical tasks. I commend the Little Rock District on this use of technology, and hope that it proves to be transferable to other interested Districts.

"Use of UASs both pre- and post-flood offer us another way to quickly and efficiently collect needed data about conditions on the ground and assist in making timecritical decisions in response and recovery mode."

An additional innovation that should be highlighted is the use of Unmanned Aerial Systems (UAS) to collect aerial photography and other data about the extent of flooding. Use of UASs requires a waiver from the Office of the Secretary of Defense. For the winter flooding, a waiver was obtained to collect data at the Old River Overbank Control Structure and to prepare for possible operation



Aerial photograph, shot by an Unmanned Aerial System, that shows serious sloughing on the West Bank of the Columbia Canal due to a dam breach.

of the Morganza and Bonnet Carre spillways. The UAS flights were used to collect data about structural integrity of these spillways and to provide topographical data. This information is necessary in order to determine that the spillways will perform as intended if operation proved to be necessary. Use of UASs both pre- and post-flood offer us another way to quickly and efficiently collect needed data about conditions on the ground and assist in making time-critical decisions in response and recovery mode.

And in a late breaking development, we were just notified that the Deputy Secretary of Defense approved USACE's blanket UAS request. This approval provides USACE the authority to employ UAS for the following missions: Civil Works, Emergency Response, Environmental Restoration, and Research supporting these missions. It does not provide authority to use UAS for other purposes. USACE organizations must still meet all other requirements (Army aviation, FAA, etc.) for the employment of UAS.

FRM Research & Development Strategic Plan for FY17-21 By Cary Talbot, PhD, P.E., Engineer Research & Development Center - Coastal & Hydraulics Laboratory

In December 2015, the culmination of over a years' worth of effort produced the Research & Development Strategy for Flood Risk Management for Fiscal Years 2017-2021. The FRM Business Area is supported by a requirements-driven portfolio of R&D programs executed by the Engineer Research and Development Center (ERDC), including the Flood and Coastal Systems, Coastal Field Data Collection Program, Coastal and Ocean Data Systems, and National Shoreline Erosion Control Development and Demonstration Program. This portfolio of programs balances applied and basic research, development of technology, and the transition of R&D outcomes to communities of practice.

These programs leverage resources in other USACE research areas and programs, other Federal and non-Federal agencies, academia and industry to address the most challenging problems as they relate to the Corps' role in mitigating flood and coastal storm risk. This strategy was developed in consideration of and in context with the USACE Campaign Plan, FY15-19, Sustainable Solutions to America's Water Resource Needs: Civil Works Strategic Plan 2014-2018, USACE Resilience Strategy, and USACE Civil Works R&D Strategy. Further, the Strategy considered many external influencers and enabling documents (see Figure 1).

Figure 1. Hierarchy of USACE strategic plans and other enabling documents and external influencers that informed this R&D Strategy for FRM (center of circle). External influencers: WRRDA (Water Resources Reform and Development Act of 2014), CEQ (White House Council on Environmental Quality), PCAP (President's Climate Action Plan), P&G (Principles, Requirements, and



Figure 1. Hierarchy of USACE strategic plans and other enabling documents and external influencers that informed this R&D Strategy for FRM

Guidelines), PPD 21 (Presidential Policy Directive 21: Critical Infrastructure Security and Resilience), PPD 8 (Presidential Policy Directive 8: National Preparedness), HSRTF (Hurricane Sandy Rebuilding Task Force), NACCS (North Atlantic Coastal Comprehensive Study), NRCS (National Research Council Studies), MITFLG (Mitigation Framework Leadership Group), FFRMS (Federal FRM Standard), FIFMTF (Federal Interagency Floodplain Management Task Force), Internal influencers: USACE Campaign Plan, USACE Civil Works Strategic Plan, USACE Civil Works R&D Strategy. The R&D Strategy for FRM has been

developed to identify the gaps and advance the science and technologies that will be necessary to meet the challenges of the USACE in their FRM mission as impacted by long-range drivers for R&D which include aging and inadequate infrastructure, climate change, population demographics, water security and competing demands, declining ecosystems and resource availability. Further, the strategy is intended to foster conversations both within the agency and externally with USACE stakeholders, partners, and other agencies that lead to innovations that drive down the Nation's flood risk.

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Using the most relevant literature and reports, an extensive set of interviews and consultations, and an iterative review process, five key challenge themes emerged. R&D goals were established around these themes, supporting both technical capabilities and cross-cutting strategies (see Figure 2). Three of the strategic goals support development of scientific and technical capabilities that help USACE reduce disaster risk, increase resilience and support sustainable water resource infrastructure. The remaining two goals address crosscutting strategies that encompass all the goals and the inter-related challenges of taking a systems approach and embracing collaboration and partnering. The strategy seeks to identify the most critical challenges and identify the highest-level opportunities for R&D that impact the USACE FRM business line.

The FRM R&D Strategic Plan can be downloaded from the FRM Gateway at: <u>http://operations.usace.army.mil/flood.</u> <u>cfm</u>





Galveston District Conducts Feasibility Study to Protect Texas Coast By Sheri Willey, P.E., Galveston District



An aerial photo of the Galveston coastline. The Galveston District is working toward a solution to better protect the Texas coast by analyzing findings from the ongoing Coastal Texas Protection and Restoration Feasibility Study.

Protecting the Texas coast from natural and manmade disasters continues to make headlines in local papers as various agencies and organizations work to find solutions to this complex issue. The U.S. Army Corps of Engineers Galveston District is one of these organizations that is working toward a solution as part of a team that will analyze findings from the ongoing Coastal Texas Protection and Restoration Feasibility Study.

"There are several proposed ideas to protect the Houston-Galveston region from hurricanes and storm surge but they are all missing a critical component," said Project Manager Sheri Willey, USACE Galveston District. "We need data that will assist leaders in making an informed decision about which project will best meet the communities' needs while weighing the potential impacts on the environment and economy. All of the current proposals require the necessary studies to identify potential engineering and cost implications as well as the economic and environmental impacts to the region."

The feasibility study, which aims to objectively identify strengths and weaknesses of proposed plans as well as opportunities and threats to the environment and economy, will employ a benefit-to-cost ratio approach to determine if a plan is worth pursuing.

With proposals (such as the Ike Dike and inland barrier structures) presented to the Texas Legislature's Joint Interim Committee on Coastal Barrier Systems during a public hearing in August 2014, Willey says partnering with agencies and stakeholders to find a long-term solution is the most effective way forward for the Galveston Bay area.

"We gathered feedback from residents that will help us identify coastal storm risk management and ecosystem restoration problems and opportunities along the Texas coast," said Willey. "These public scoping meetings were part of our Coastal Texas Protection and Restoration Reconnaissance Study."

The yearlong federally-funded reconnaissance study, completed in August 2015, examined the entire 367-

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mile Texas coastline from the mouth of the Sabine River at the Texas-Louisiana border to the mouth of the Rio Grande at the Texas-Mexico border to determine federal interest in conducting feasibility studies. The feasibility study will also identify potential shoreline degradation, storm damage risk reduction, environmental restoration and protection as well as related improvements along the Texas Gulf Coast to ensure the preservation of the Texas coastal region is balanced with the growth and needs of industries that fuel commerce and power the nation.

"We've been an integral part of the development of the Texas coast since 1880, when Congress established this district to oversee river and harbor improvements, and we've continued to serve our coastal communities," said Willey. "We helped Galveston recover from the 1900 hurricane (the deadliest natural disaster in American history) and build the iconic Galveston Seawall, which helped protect the island during Hurricane Ike in 2008. We'll continue to work in partnership to find solutions to our coastal challenges through the feasibility study with our non-federal sponsor, the Texas General Land Office."

"The work done in the feasibility study will result in implementable solutions to problems along the entire Texas Coast, including the high-priority CSRM opportunities in the Galveston Bay region."

Col. Richard Pannell, USACE Galveston District Commander, acknowledged the magnitude of this undertaking and stated that he is appreciative of the supportive partnerships that are working together to reduce risks along the Texas coast and to ensure the continued success of key infrastructure that contributes to the nation's economy and quality of life.

"It's a complex study, and it will be challenging to move through this process, but the process generates irreversible momentum at a national scale," said Pannell. "We have the ability to achieve enormous value, not just to this area, but to the entire country."

According to Willey, the district received an exemption from the 3x3x3 study requirements for Corps planning studies for a \$19.8 million, 5.5-year feasibility effort due to the great complexity and national importance of the Texas Gulf Coast.

"This effort will leverage existing information and data which has been developed following recent hurricanes by numerous stakeholders such as Texas A&M at Galveston, the Severe Storm Prediction, Education and Evacuation from Disasters Center based at Rice University as well as the Gulf Coast Community Protection and Recovery District and Texas GLO studies on critical infrastructure and environmental resource opportunities," said Willey.

The comprehensive study effort is manned by two complete Project Delivery Teams comprised of members from several districts that are using expertise established from similar projects such as the Louisiana Coastal Restoration study and the North Atlantic Coast Comprehensive Study.

Willey stated that in addition to the PDTs, technical expertise from the USACE Engineering Resource Development Center will be used for technical hydraulic and hydrology analyses and expertise from the USACE National Planning Centers for Coastal Storm Risk Management and Ecosystem Restoration will be used throughout the study effort.



Commissioned by the Galveston Commission for the Arts and installed in 2000, David W. Moore's bronze sculpture is a monument to the victims and survivors of the 1900 Storm, which killed in excess of 6,000 Galvestonians. From galveston.com

"As we continue to work with our partners to share knowledge and make data available, we all benefit and move forward more rapidly in developing a long-term comprehensive coastal plan for Texas," said Willey. "The work done in the feasibility study will result in implementable solutions to problems along the entire Texas Coast, including the high-priority CSRM opportunities in the Galveston Bay region. Additionally, this effort will support the State of Texas, the only coastal state in the country lacking a Coastal Master Plan, in their development of such a plan."

For more news and information about the Texas coast, visit the USACE Galveston District website at <u>http://</u><u>www.swg.usace.army.mil</u>. Find us on Facebook, <u>www.facebook.</u> <u>com/GalvestonDistrict</u> or follow us on Twitter, <u>www.twitter.com/</u><u>USACEgalveston</u>. ■

Moving the National Flood Risk Management Program Forward By Doug Bellomo, Institute for Water Resources

In fiscal year 2006, about one year after Hurricane Katrina struck, the U.S. Army Corps of Engineers (USACE) established the National Flood Risk Management Program (NFRMP) and began to transition from a focus of flood damage reduction to helping the nation develop solutions housed within a broader flood risk management framework. Since then we have made a tremendous amount of progress, some of which includes the following:

- Each District and Division has an assigned flood risk manager.
- There are 44 active Silver Jackets teams across the country.
- More than 2,500 flood risk assessments have been completed for dams and levees within our portfolio.
- We worked with the federal family to create a federal flood risk management standard.
- We have made advancements in addressing non-stationarity and the science associated with climate change.
- We are finding new ways to increase our nation's resilience – an effort that complements our flood risk management work.

"In the end, the team has suggested orienting the program's vision around positioning our economy, society, and natural landscapes to better withstand, recover, and adapt to continually changing flood risks."



South Carolina saw historic amounts of rain in October that caused a flooding event like never been seen before. The Charleston District was tasked to inspect 682 dams in two weeks, among other projects. (Photo by Sara Corbett)

Making the shift in concept from "flood damage reduction" to "flood risk management" has been challenging given a myriad of technical, legal, cultural, and fiscal constraints. In October 2015, a cross-disciplinary team was established to address these challenges and to look at opportunities for advancing the program.

The team has discovered opportunities for integrating flood risk management practices with triple bottom line concepts – recognizing the need to keep in mind the complex feedback loops associated with the health of our social networks, our natural environment, and our economy. We need to continue to better address uncertainty in our communications and planning, more effectively establish the linkages between the flood risk management program and our resilience model (absorb, recover, adapt, prepare), and frame our activities around the three main elements of any risk analysis – risk management, risk assessment, and risk communication. The team is recommending making changes to the program's vision and mission, building on successes of the past, while more directly incorporating the concepts of resilience, general risk management principles, uncertainty,

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and what remains to be a very diverse set of national values. In the end, the team has suggested orienting the program's vision around positioning our economy, society, and natural landscapes to better withstand, recover, and adapt to continually changing flood risks. The team recommended aligning the program mission to focus on internal decisions that affect flood risk, as well as helping our external partners make more informed decisions that may impact the nation's flood risk profile.

The team developed draft vision and mission statements and presented a set of draft principles for guiding the program into its next phase to engage a broader set of minds and support our continued shift toward a "flood risk management" paradigm. Those pieces were shared both internally and externally in the form of a thought experiment as part of the Flood Risk Management workshop in Southbridge, MA this past December. We collected feedback through a digital polling technology, as well as through small breakout sessions made up of USACE experts in the Districts, Divisions, and Headquarters. This feedback is being analyzed and will help set the stage for determining how best to apply any suggested program improvements.

Critically thinking through where we've been, scanning the landscape for opportunities, and updating documents to reflect best practices are important steps in keeping the program strong; but it doesn't end there. Real improvements are only realized when our collective actions are unified and advance us toward our vision. That means investing in the workforce - ensuring each person is equipped with the right tools, skills, and time to make measurable progress. It will take all of us working together to position our nation to thrive in an environment where the risks and benefits associated with living, working, and playing in areas prone to flooding will continue to evolve. Good flood risk managers never rest because the risk is continually changing shape, and it never goes away. 🖼

Guiding Principles

- 1. Accept that absolute protection is not possible and plan for exceedence.
- 2. Promote some flooding as desirable.
- 3. Base decisions on an understanding of risk and uncertainty.
- 4. Recognize that the future will be different from the past.
- 5. Implement a portfolio of responses, and do not rely on a single measure.
- 6. Utilize limited resources efficiently and fairly to reduce risk.
- 7. Be clear on responsibilities for governance and action.
- 8. Communicate risk and uncertainty effectively and widely.
- 9. Reflect the local context and integrate flood planning with other planning processes.

P. Sayers, Y. L.i, G. Galloway, E. Penning-Rowsell, F. Shen, K. Wen, Y. Chen, and T. LeQuesne. 2013. *Flood Risk Management: A Strategic Approach.* Paris, UNESCO.

Spotlight on: Joe Trimboli



Mr. Joe Trimboli, Community Planner and District GIS Subject Matter Expert, is currently on a temporary assignment in Huntington District's Emergency Operations Center. As a member of the Huntington Planning Team, he is responsible for the Flood Plain Management Services (FPMS) outreach efforts and is also the Silver Jackets Liaison to West Virginia. Having been associated with FPMS for over 15 years, Mr. Trimboli has continued a Huntington District tradition of maintaining a robust "Quick Response" effort under FPMS. Recognizing West Virginia's need for Base Flood Elevation (BFE) support, he developed a BFE process using FEMA guidance which has resulted in the Huntington District directly supporting the entire State of West Virginia.

Current efforts in West Virginia include developing training for the BFE process and participating in the States Annual Flood Plain Managers board. He holds a monthly FPMS Webinar to which Floodplain Managers from KY, OH, and WV are invited. In addition to discussions on BFEs, the webinars covers a range of topics that focus on technical issues related to floodplain management. Future goals for the Silver Jackets West Virginia team include coordinating a training session with surveyors who routinely prepare Elevation Certificates and holding a question and answer session on the Letter of Map Amendment process. Mr. Trimboli's efforts reflect highly on the Corps Flood Risk Management Program. 🖼

Sponsor Engagement and Risk Communication for Levees

By Eric Halpin, HQUSACE, Chris Baker, Institute for Water Resouces, Suzanne Vermeer, Federal Emergency Management Agency, and Stacy Langsdale, Institute for Water Resources



The Souris River, just before rising over the temporary levees during the 2011 flood.

The USACE Levee Safety Program's pending release of the results of more than 1,500 Screening Level Risk Assessments and associated risk characterizations (more commonly referred to as Levee Safety Action Classifications [LSACs]) to levee sponsors will require a remarkable effort by USACE staff to ensure the results are understood clearly and encourage shared responsibility. Despite the challenge, remember that we have an important responsibility to protect lives and ensure that those who can affect, and are affected by the risk, have the information necessary to make good decisions to manage that risk.

Eric Halpin (HQ), Chris Baker (IWR), and Suzanne Vermeer (FEMA) briefed USACE and FEMA staff on February 22 via webinar about sponsor engagement and communication expectations by District Levee Safety communication teams. This article provides a brief summary, focusing on next steps and resources. The full presentation, along with previous webinars and additional resources, is located on the Public Affairs Levee Safety sharepoint site¹.

The Challenge

Appropriate management of this communications effort will require extensive coordination both internally and externally and the ability to communicate the risk (often based on technical information) in a way that sponsors will understand. District teams need to consider how the results will impact the sponsors and communities and should expect to have some challenging conversations. We know these challenges may stretch you out of your comfort zones, so we (HQ Public Affairs and the HQ Levee Safety Public Awareness and Communications Team [PACT]) have provided tools and will support District teams to ensure your success.

The Goals

The goals are: (1) to engage sponsors early and often, (2) to share understanding with everyone involved and affected by the risk, (3) to promote risk management, focusing on what can be done and by whom, and (4) to build relationships, not just with the sponsors, but with internal and external team members, and other key stakeholders.

Why Communicate? Why now?

This major initiative to assess the benefits and risks associated with levees within the USACEs' portfolio and to share the results of these assessments implements USACE shared responsibility principles established in response to Hurricane Katrina. USACE is a risk management agency, so we have responsibility to assess and manage the associated remaining flood risk by sharing information in a timely manner with all those who can affect that risk. WRDA 2007 and WRRDA 2014 direct us to share our knowledge with people, while the Inspection of Completed Works (33 CFR 208.10) states "ensure projects can safely deliver benefits." With the HQ USACE release of Policy Guidance Letter on Placing Levees in a Risk Context, Emphasis on Communication and Sponsor Engagement (PGL), we are ready to respond.

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Preparing for Policy Implementation – Strategic Planning

So, how will you start? First, (re)read the PGL². Next, assemble your team. Take advantage of the knowledge and expertise of other Communities of Practice, even if you haven't worked with them before. Who has skills in risk communication? In stakeholder engagement? Who may already be interacting with your levee sponsors, stakeholders, or congressional representatives? Third, develop a District Strategy for Communication and Sponsor Engagement for Levee Safety Activities with your team. This is not a typical project-level communication plan, but a 10,000-foot overarching, long-term strategy – like a Programmatic Management Plan (PgMP). In creating this first, you will consolidate and prioritize meetings with sponsors, consider the relative level of effort that is appropriate for the range of studies, and confirm who should be involved in the delivery teams, both internally and externally. Having clarified these big decisions first will make it easier to respond to each approved levee risk characterization.

FEMA Coordination

Since FEMA works directly with communities to deliver flood hazard information, there is both a need and an opportunity to coordinate with FEMA when planning outreach. Remember, FEMA may have ongoing activities that are important to consider in the timing of risk communication activities. It is imperative to coordinate with FEMA regional staff to ensure consistent messages are delivered to communities and levee sponsors. This also allows FEMA staff to be prepared to answer questions that will certainly arise on how the USACE assessment will affect FEMA accreditation on Flood Insurance Rate Maps. Building these inter-agency relationships also allows for greater visibility into what each agency is doing and communicating about levees.





Planning pyramid provides recommended structure, components and grouping for the district's communication and engagement strategy.

FEMA Region points of contact are posted on the Levee Safety TEN site³.

Sponsor Expectations

Sponsors should participate in all aspects of the program activities, from inspections through risk management. They also are typically more trusted by local communities than are federal agents, so they will be more effective in leading risk communication outreach to the affected stakeholders. If sponsors are unwilling, unable or reluctant to conduct outreach, then the District will need to make a judgment call about actions to take to fill this gap. This judgment should be based on the level of risk as well as the current risk awareness among the community. USACE should continue to attempt to engage the sponsor in these activities.

Tips from the Pilots

The USACE LS Program conducted several pilot tests of LS risk assessments over the last few years, including meetings with sponsors. These experiences provided many lessons, summarized by these tips:

- "Risk" This term is defined differently by USACE, FEMA, and the public who also include subjective aspects of risk. So, define what you mean to enable better understanding.
- Each levee system is unique -The context and character of risk varies widely, so there is no standard way for all Districts to share the information. It will require critical thinking to design appropriate engagement strategy and communications specific to each levee system. Be sure to rely on your Public Affairs, Outreach Specialists, Public Involvement Specialists, Silver Jackets representatives, and the Levee Safety Communications Team to support you in this design.
- Don't start with the LSAC The LSAC is useful for the Corps' national perspective, but aggregates so much information that it doesn't convey what is relevant to sponsors and communities. Instead focus on

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the risk, risk drivers, and possible risk reduction actions.

• Shared Responsibility – This is the key to managing risk effectively, so this is a fundamental part of the risk assessment conversations with sponsors and communities.

What's Next?

HQ Approval of risk characterizations – In the coming weeks, USACE HQ LSO will begin releasing approved risk characterizations to Division and District LSPMs and LSOs by auto-generated emails, so keep an eye out for them. If you have had recent staff changes, be sure that your LSPMs and LSOs contact information is current in the Levee Screening Tool. Once received, District staff is responsible for loading this information into the National Levee Database (NLD) and describing in the Levee System Summary.

Existing Tools and Resources

The following tools and templates located on the Public Affairs LS Sharepoint site⁴ can assist you with developing your plans (POC: Pete Pierce and Carol Sanders, HQ):

- PGL Placing Levees in a Risk Context, Emphasis on Communication and Sponsor Engagement, dated 6 November 2015
- PGL Enclosures: Guide to Developing a District Strategy; Levee System Summary Template
- Fact Sheets
- Previous webinars
- Resource Guide
- Online communication planning tool (USACE QMS 28000, accessed by the star icon on our desktops)

Funding Opportunities:

 Each District may request \$50K for developing their District Strategy. Note that this is a significant level of effort, and should not be rushed. (POC: Trent Ferguson, SAD) Silver Jackets Call for Proposals. Corps staff may apply for up to \$50K for USACE participation in interagency implementation of risk reduction actions. Applications will be reviewed quarterly starting June 15th. For details see the announcement in Mark Roupas' email to LSPMs, LSOs and SJ coordinators on February 26. (POC: Chris Baker, IWR and Lisa Bourget, IWR)

Training and Technical Assistance (POC: Stacy Langsdale, IWR and Chris Baker, IWR):

- Coaching calls (monthly) An opportunity for Districts to share successes and lessons learned as we all go through this new initiative.
- District training sessions for full LS teams – To enhance team skills for conducting risk communication in this levee safety context and to support teams in developing or refining their District Strategies. Will start scheduling sessions in early spring.
- Technical assistance Contact us for help with particularly challenging

cases. Support will be based on the individual needs of the District and availability of the HQ Levee Safety Communications Team (PACT) staff.

Upcoming guides (POC: Pete Pierce and Carol Sanders, HQ):

- HQ Communication Plan, including broad key messages
- Checklists/Tip Sheets for developing District Strategies, Communication Plans, and Levee System Summaries

Everything is Cool When You're Part of a Team

If you are feeling unsure about the work ahead, seek support from across your districts and at the MSC level, with agency partners like FEMA, and from the PACT leads Chris Baker and Stacy Langsdale. We are not imposing deadlines because we want you have the time you need to be well prepared and conduct quality work. So, please reach out for help. By helping each other, we are confident that all Districts will be successful in this new risk communication endeavor.

Links

¹ Public Affairs Levee Safety sharepoint site

https://cops.usace.army.mil/sites/PA/Shared%20Documents/Forms/AllItems. aspx?RootFolder=%2Fsites%2FPA%2FShared%20Documents%2FLevee%20Safety&FolderCTID=0x012000 22C6857B8259A547A96FC1A5278D0B7C&View={6017D82D-220D-44A8-805E-813C6748D46C}

² PGL

https://cops.usace.army.mil/sites/PA/Shared%20Documents/Forms/AllItems. aspx?RootFolder=%2Fsites%2FPA%2FShared%20Documents%2FLevee%20 Safety%2FPolicy%20Guidance%20Letter%2D%2DPlacing%20Levee%20Systems%20in%20 a%20Risk%20Context%2C%20Emphasis%20on%20Communication%20and%20Sponsor%20 Engagement&InitialTabId=Ribbon%2EDocument&VisibilityContext=WSSTabPersistence

³ TEN site

https://apps.usace.army.mil/sites/TEN/Is/Documents/Forms/AllItems. aspx?RootFolder=%2Fsites%2FTEN%2FIs%2FDocuments%2FSponsor%20Engagement%20 and%20Risk%20Communication&FolderCTID=0x0120001A8025A2EA2A5F44B39FC14FCC-6A1BC4&View={02AE914E-46E8-43D5-831F-215B6B7C2E13}

⁴ Public Affairs Levee Safety sharepoint site

https://cops.usace.army.mil/sites/PA/Shared%20Documents/Forms/AllItems. aspx?RootFolder=%2Fsites%2FPA%2FShared%20Documents%2FLevee%20Safety&FolderCTID=0x012000 22C6857B8259A547A96FC1A5278D0B7C&View={6017D82D-220D-44A8-805E-813C6748D46C}

Planning Bulletin 2016-01 By Laura Ortiz, Buffalo District



Elevated, Floodproofed Fire Station in Sacramento, CA

Consideration of nonstructural measures has been a factor in the formulation with flood risk reduction projects and coastal storm damage reduction studies; however, there has always been some ambiguity over how nonstructural measures were considered in the plan formulation process. The information presented in Planning Bulletin (PB) 2016-01 provides guidance which is meant to clarify and strengthen the existing nonstructural policy for flood risk management and coastal storm damage reduction studies as presented in ER 1105-2-100.

Here are a few takeaways from the PB:

- 1. Berms, floodwalls, and other similar flood risk reduction structures do not meet the USACE definition of nonstructural and from here on out, berms, floodwalls, and other similar flood risk reduction measures must be implemented as a structural measure and the applicable cost sharing must be applied.
- 2. Nonstructural measures, including those measures which may or may not be eligible for USACE implementation, still need to be considered to formulate complete plans.
- 3. The use of eminent domain by the project sponsor has been better defined. Basically, all future planning measures such as acquisition, relocation and permanent evacuation

recommendations must include the option to use eminent domain when needed and these costs must be accounted for in accordance with real estate procedures.

- 4. Nonstructural alternatives are to be considered in the same manner as structural alternatives.
- Documentation of the effects of nonstructural plans must be documented in the Other Social Effects account. This includes both positive benefits and negative impacts.
- 6. Residual risk must be evaluated and reported. This includes residual risks to human health and safety, as well

as economic damages. It is important to document the residual risks if the recommended plan is exceeded and to further analysis if additional measures should be added to reduce the residual risk.

This PB strengthens ER 1105-2-100 and should be used as an important reference document to assist in the formulation of nonstructural plans. As in all cases, if you have any questions in reference to this bulletin, please confer with the appropriate RIT member who will then coordinate with HQUSACE. The link on the toolbox is <u>http://planning.usace.</u> <u>army.mil/toolbox/library/pb/PB2016_01.</u> <u>pdf</u>

An additional resource for questions related to nonstructural alternatives is the National Nonstructural Flood Proofing Committee (NFPC). The NFPC provides various training opportunities, and can provide different types of support to studies. The NFPC website (http://www.usace.army.mil/Missions/ CivilWorks/ProjectPlanning/nfpc. aspx) also provides valuable reference materials.



A local business flood proofed by placing a water resistant barrier, shown as a dark colored sealant, around the entire exterior. The sealant was then covered with brick laminate to protect it from being compromised. Closure barriers would be needed at all building openings in the event of a flood.

Other Important Information

Events

This listing is for information only and is not a complete list of FRM-related meetings. These meetings are not endorsed by the Corps of Engineers unless specifically stated. If we have failed to list a conference/meeting/symposium that would be of interest to the Flood Risk Management community, please forward the conference details to us.

13-15 April 2016 - Missouri Floodplain & Stormwater Management Annual Conference - Osage Beach, Missouri

15-18 May 2016 – **National Flood Conference** – Washington, DC – <u>http://pcievents.cvent.com/events/national-flood-conference/</u> event-summary-403b8b379b5443ea8f2d877bf524db55.aspx

8-10 June 2016 – **3rd International Conference on Environmental and Economic Impact on Sustainable Development** – Valencia, Spain – <u>http://www.wessex.ac.uk/16-conferences/environmental-impact-2016.html?utm_source=wit&utm_medium=email&utm_campaign=eid16cfp&uid=184019</u>

19-24 June 2016 - Association of State Floodplain Managers - Grand Rapids, MI - http://asfpmconference.org/

29 June - 1 July 2016 – **5th International Conference of Flood Risk Management and Response** – San Servolo, Venice, Italy – <u>http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=45833</u>

12-15 July 2016 – **River Flow 2016 Eighth International Conference on Fluvial Hydraulics** – St Louis, MO – <u>http://www.iihr.uiowa.edu/riverflow2016/registration/important-dates</u>/

17-22 July 2016 - International Conference of Coastal Engineering - Ottawa, Canada - http://www.coastlab2016.com/

22-25 August 2016 – National Association of Flood & Stormwater Managers Agencies (NAFSMA) - Annual Meeting – Portland, OR v– http://www.nafsma.org

19-23 September 2016 – MTS/IEEE OCEANS'16 Conference – Monterey, California – <u>http://www.oceans16mtsieeemonterey.org/</u> call-for-abstracts

17-21 October 2016 - 3rd European Conference on Flood Risk Management - Lyon, France - http://floodrisk2016.net

24-26 April 2017 – 2nd International Conference on Coastal Cities and their Sustainable Future – Cadiz, Spain – <u>witconferences.</u> com/coastal2017

5-7 Sept 2017 - 7th International Conference on Flood Management - Leeds, UK - http://www.icfm7.org.uk/

Be sure to check out floods.org for the dates of state conferences and training opportunities: <u>http://www.floods.org/n-calendar/</u>calendar.asp?date=3/12/2016

FRM Statements of Need: Submitting "Statement of Need" is the first step in the process of a concept becoming a requirement for research and development. If USACE District personnel have problems or situations they feel should be addressed by research, the Flood Risk Management Gateway, <u>http://</u> <u>operations.usace.army.mil/flood.cfm</u>, is the place to submit these research Statements of Need (SoNs).

Past issues of this newsletter, various links, news items, and presentations, are all available on the Flood Risk Management Gateway, http://operations. usace.army.mil/flood.cfm. Check it out! This newsletter is a product for and by the Flood Risk Management Community. The views and opinions expressed in this unofficial publication are not necessarily those of the U.S. Army Corps of Engineers or the Department of the Army.

If you would like to submit an article or an idea for an article for the next edition of the newsletter, or if you have any comments or questions about articles in this edition, please email **Stephanie.N.Bray@usace.army.mil.**





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