

**FIFM-TF Listening Session
May 10-11, 2010 – Crystal City, Arlington, VA
Transcript of May 10th Opening Remarks and Presentations**

[Begin of Tape 1]

[00:00]

Deborah (Deb) Ingram, FEMA - Emcee

Good afternoon. I'm Deb Ingram, the Director of FEMA's Risk Reduction Division, within the Federal Insurance and Mitigation Administration. And on behalf of the Federal Interagency Flood Plain Management Task Force, we are looking forward to spending the next two, half days with you.

We've designed this listening session to be very interactive. The primary purpose of this session is to provide – is for you to provide us with insight about what the task force should be considering as we move forward with our work. Our agenda for today includes opening remarks by Rock Salt, Principal Deputy Assistant Secretary of the Army for Civil Works; a series of opening presentations to provide us with a context for the listening session; a series of topical discussions that will be held in breakout groups and those topics are listed on your agenda, and we will discuss details of that after the opening presentations. And then later this afternoon, we're going to have a networking reception and a gallery walk to review, where you'll have a chance to walk around and see what comments people have made and provide any additional input that you would like to.

Tomorrow, we will continue our discussings (sic) - discussions using a scenario-based approach that will build on the discussions from today. And our closing speaker tomorrow is Rich Serino, the Deputy Administrator for FEMA.

So, to welcome us this afternoon, I'd like to introduce Rock Salt, Principal Deputy Assistant Administrator of the Army for Civil Works. Rock Salt assumed his duties in March 2009. He is the Principal Policy and Legislative Adviser to the Assistant Secretary for Army for Civil Works. He provides direction for the Army for Civil Works legislative program, the development and articulation of the Department of Army's policies Civil Works activities, and is responsible for the

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coordination of the Army's policies and practices in support of the Clean Water Act, the Rivers and Harbors Act and the Relay of Regulatory Programs. Rock.

Terrence "Rock" Salt, Principal Deputy Assistant Secretary of the Army for Civil Works, Department of Defense – Welcome and Opening Remarks

Well, you just have my thanks to everybody for coming and trying to help us as we work through this uh – this really important effort and topic. I think what (inaudible) say is before I came to this job that I was in the Department of Interior work and sort of on a intergovernmental, interagency effort on (inaudible) and before that in the Corps in a lot of places. And I come to this job with the sense that any more, the problems that we face are problems that you have to deal with in an interagency in an integrated way. Certainly, I think I'm a member of this administration because when I applied, that's what – why a lot of the things I said was I was interested in becoming part of the administration. At the time, we were working on the principles and guidelines which Congress required of the Corps which as they came up from this administration, they said we need to expand this to include all the agencies with - the CEQ took over the coordination of that and – but in the most part, it follows the work that the general themes that had been started previously. And it's this focus of watershed focus, interagency, interdisciplinary, integrated, transparent, collaborative – you know, all those words I think that are, I hope, are hallmarks of, certainly that are hallmarks of what our administration wants us to be and tries to be.

So it's in this context when the opportunity working with FEMA to re-energize the task force, the interagency task force, had our first meeting. And as you almost always do, everybody kind of feels themselves out and we very quickly realized that we needed to start engaging others if we really were going to be able to do anything that was different. And I think this meeting is one of the follow-ons from that – that insight that we had.

As I think about floodplain, flood risk management, floodplain management, flood – all the topics that are sort of emerging that get at this. I had

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never seen the Corps' sort of buying down risk chart. I'm sure most of you, if not all of you, perhaps all of you have seen it, that makes a whole lot of sense to me, as at least a framework about how to think about this topic. The – and I've given, I've talked about that in remarks I've given, but it ultimately comes to, now that we've, not that there seems to be an emerging consensus of what we need to do, the hard part is, how do you do it? And I think there are a number of challenges as we – as we try and think through how we're going to do that. We've got, we've got the challenge of our legacy infrastructure, a lot of which is passed its useful life; a lot of it is no longer providing the benefits that it was originally formulated and built for.

We've got – I believe that – that – when it – down in the Everglades we were talking about aquatic ecosystem restoration and that was sort of the banner that we were under. But everything we were doing down there was trying to balance flood projections with aquatic ecosystem. The solution to restore the Everglades also happened to be the solution that provided more secure water supplies for Florida and provide more secure flood reduction for Florida. And so I deeply believe that properly configured, the solu (sic), I don't know the difference, there is some, but fundamentally I'll ask, what's the difference between the non-structural option or non-structural options in a flood management scheme and an aquatic ecosystem restoration. They ultimately more or less become the same thing. And so I believe that there is a proverbial "win-win." I believe there is this intersection of smarter thinking.

Most of this smarter thinking, I believe, is rooted in the non-Federal plants that stay in local government plants. And so certainly from the Federal perspective, going back to the principles and guidelines, trying to understand, working together with the federal agencies and the non-federal partners, both governmental and non-governmental, to try and understand how we – how we envision this future for a watershed, for a region.

The other thing, and this – this sort of is part of, and I'll call it for me personally, this preference for a bottoms-up. I mean, we do need to have some

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sort of principles, but I think we've been talking about them. And I'm not sure that there – that we don't have a pretty good consensus on some of these large – these large principles. There's another group that met and talked with and we talked about the need for a national water policy. And of course, a lot of states and particularly in the West get a little wiggy when you start talking about that what they hear is, sort of the heavy hand of the federal government coming down and sort of laying itself onto a water policy. That's not what I'm – that's not what we're talking about at all. I mean, in the – it's okay, well what – how do we – how do we – what do we say – how do we describe this policy that basically puts us all on the same play book? That – a national water policy could be that starts at the bottom and builds itself up. I mean, whatever our – whatever the principle is that we all – we all buy into.

I think – however that turns out, what I'm saying is, the places where I've seen it work best is when you start with whatever the states or whatever the folks on the ground have worked out. It's not to say that – that – by itself that leads you to the best solution, but certainly to get to the kinds of analysis that are represented on those stair steps, you need to – you can't work without the buy-in of state governments, local governments, and the public as you do those things.

I don't think we know – well, I know we don't know how to do that. I see examples like the silver jackets where rather than sort of hypotheticals, teams that are, interagency teams go out and look at the facts on the ground and out of that, they come up with recommendations on how to do things better. I mean, to me that's – that's sort of what I think we – I really like and it's those kinds of ideas and those sorts of drivers make a lot of sense to me.

I think it's – it's a real plus. I know by all accounts on the Corps side and, I won't speak for FEMA on this but all accounts on the Corps side are – this wouldn't work without our partnership with FEMA and our work with FEMA has just been really important. The fact that we're co-chairing this, I almost think of it as we are the conveners of the discussion more than the – more than the pushers. I mean, I think as I've been trying to say here, we have an incredible

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challenge in front of us and don't know quite – quite how to do it if we all don't put our heads in it and work it as all these – all these different levels.

The Corps' strategic plan, we have to put one together for Civil Works, talks about the overarching strategy is integrated water resource management, integrating all of these multidisciplinary kinds of approaches.

I think, the task that the task force was struggling with the last time it met and what I hope you can help us with is what next? How do we – how do we operationalize this? How – what are the steps that we should be taking on the federal side to turn these, what I'll call, emerging consensus even, in terms of how we need to do these things, how do we turn that in to doing the things we need to be doing about these things? I think this listening session, I hope, is just the start, just the beginning. I don't think we can do it without everyone's help and assistance. And I look forward, in fact, I'm confident that we will be able to do that. And I again thank everyone for being here.

And with that, I will turn it over, and the panel I think is going to tell us more good things. Thanks.

Deb Ingram

Thank you. Thank you, Rock. We appreciate those words and it's a good way – good way to start. To move us along, we have convened this group of presenters with the intent of providing a broad context of discussion for the next two half days. Each of these experts brings a different perspective. And so we're going to move it – each of them provides you with their viewpoint and then we will move on into our group discussions. I will say we're not – we're not going to take questions. If you do have questions for our speakers, you'll have to catch them on a break or maybe – maybe at the reception later this evening.

Our first speaker, Sandra Knight, is going to talk with us about the cost of flooding. Sandra is FEMA's Deputy Federal Insurance and Mitigation Administrator for Mitigation. She assumed her duties with FEMA this past January where she provides leadership and oversight and supervision for the

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development and administration of our regulations policies and procedures for risk analysis, risk reduction, environmental planning and historic preservation, as well as support for mitigation operations in FEMA's 10 regions and its disaster cadre. Sandra brings a broad range of federal experience, as prior to her appointment at FEMA, she was with NOA and the Corps. Please join me in welcoming Sandra Knight.

**Sandra Knight, Deputy Federal Insurance and Mitigation Administrator, MT,
Federal Emergency Management Agency, Department of Homeland
Security - The Cost of Flooding**

Thanks, Deb, and thanks everyone for being here. We don't want to take a lot of your time right now because we are here to listen. And I think the breakouts are going to be really helpful and I think we have a really good representation here.

I will say that I have personally been taking to heart the whole integrated water resources things because my first job with the Corps I did flood studies in 1980 and you can do the math, I was only 10 when I started. And then went to NOA and now I'm here. So this really is a subject near and dear to my heart. And they asked me today to talk about the cost of flooding and – pushed - let's see. Yeah, got it, just pushed the wrong thing. And I've got a few notes that – with some statistics in it, but I saw Maria here and I – many of you have seen the publication NOA puts out on the – the statistics around natural hazards. And so – so we have some sources of information but I'm just going to tell you, it's hard to get some of these numbers, really in a holistic fashion. And – so if you look at every agency that has some interest in this and that – what it costs in terms of the money we put out, we really do have to look at a unified national program because we really are all in this together, the public and private sector as well.

The slides I have kind of look at the different perspective and I guess from – you could think of it almost from the sector perspective or from the different agencies and I certainly don't think we've got all of the costs here. But just to give you a sample of the kind of costs that are associated with flooding. And this is

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from an old report, it says, a 1992 assessment report for USDA to crop losses range from 150 to 500 million annually. I can only imagine what that might be in 2010. We provide assistance to our ranchers and our farmers every year to help recover from production of the losses due to flooding. And I think quite frankly, as we get the stressors of climate change on our agricultural community, that we're going to see a lot more cost as things flood and we try to recover.

Then from the Corps and Ed's going to be up here in just a minute and so I don't want to take their thunder, but you know, just the dollars invested in flood control infrastructure and the levies, the dams, the Corps of Engineers does – has an inventory and assesses 13,000, although I've heard 14,000, miles a levy, that there's 100,000 miles of levees out there, so outside of federal investment, there's a lot of community and state and private investment in these levies as well. And so the dollars that – the cost of maintaining and managing these things and keeping them up to speed, and what we spent on our programs is probably just a fraction of what it's going to take to actually have all of our infrastructure tools that are fully functional.

Then this is looking from DOD perspective, you know, during the flood pipes themselves, we rely on our armed forces to help support the flood reliefs, but I would say that flooding also impacts national security or it can. You know, if you have lock or port closures, your ability to mobilize, your troops and services are threatened. And then the whole issue with communications becomes a security issue. The cost of flooding, from a DOT perspective, again, you know, you can – one would only have to look at some other incidences not even related to flood, you know that the cost of having our transportation crippled really has an impact. I haven't worked with the Corps for many years, I think back on the longshoreman's strike in Los Angeles a few years ago, and they were down for a few days. It was billions of dollars because support was closed. So today I read in the news, you know, just from the disaster – natural disaster – I mean the disaster on the Gulf Coast from the oil spill that already some locks are being closed on the Gulf and our coastal waterway, has a large economic impact.

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Then health and human services perspective, we know that there's a threat from flood-borne diseases and contaminations of drinking water. It's the first thing that people really need is water and they don't need it just in bottles for a few days to sustain the water systems that keep us going for weeks and months is a real issue and one of the really important pieces of infrastructure that's crippled by flooding.

And then EPA, just, the ecological impacts of flooding, which quite frankly often come as a secondary priority during a disaster. We think first of you know, public safety which is important, but the cost of ecosystems, the ripple effect that can have. So I'm not – I don't have many dollars up here. I don't know what the dollars are to some of these things. So I think part of the challenge is for us to really understand the full impacts of – of flooding.

I do have some – from – some FEMA costs. It says that riverine flooding alone in 2008 exceeded \$500 million. And this doesn't include the impacts of hurricanes or tropical storms. That's just the flooding numbers. The National Flood Insurance program in 2008 told payouts for more than \$941 million. 2009, the numbers are still out so we don't have the numbers there yet.

The National Weather Service estimates in 2008 that the flooding cost the nation nearly 7 billion. I think that's just representing federal – federal investment. And from 2004, 2005, hurricane season, over 42 billion. And I'm not sure that those values include the major investments in infrastructure that are occurring and have occurred since then.

And then Ed Hecker and I were both in Seattle a few weeks ago at a dam safety exercise for the Green River Valley below Howard Hanson dam, which you, I'm sure, all know that it's not just the impacts to the – immediate impacts to the flood, but it's the ripple effect of our businesses. And the businesses that were represented there were concerned. It's a matter of weeks, within weeks, or a month or less than two months, if the businesses can't re-establish and get back going, there's such an economic impact to the whole community and that has a huge ripple effect too. So we're not really even capturing those.

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And then it goes without saying that – that protecting lives is certainly our biggest priority. The – the average is 64 lives per year to flooding. And in 2009, 53 Americans lost their lives to flooding. And today, and this past week as we watched Tennessee and Kentucky and the floods, that there have been at least 29 lives lost and today's, I think in the paper, Nashville (inaudible) Karl Dean has estimated that about a billion and a half dollars worth of damages to residential and commercial and industrial property.

So we're looking at severe impacts from this, that's why we're all here. It's all important to us. I think the federal interagency task force has a great opportunity but as Rock said, it's a bottom-up approach and it takes everybody's engagement to make this work. And so we're looking forward to hearing your input. Thanks.

Deb Ingram

Thank you Sandra.

Our next speaker, John McShane, is going to talk with us about the natural resources and functions of the floodplain. John has been at EPA for 12 years where he is an environmental scientist with the office of Wetlands, Oceans and Watersheds. Prior to joining EPA, John worked on floodplain management issues at FEMA for 10 years; and interestingly, in the mid-1990's, he served as the acting chair of the Federal Interagency Floodplain Management Task Force. Please join me in welcoming John McShane.

John McShane, NEP Team Leader, Office of Water, U.S. Environmental Protection Agency - Natural Resources and Functions of Floodplains

Thank you, Deb. God, it's great to see so many familiar faces, some old colleagues and some new friends, hopefully. I'm going to be discussing the natural resources and functions of floodplains. But as we all know, the goals of floodplain management are to reduce the loss of life and poverty caused by floods, and to protect and restore the natural resources and functions of

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floodplains. The first few documents of the Unified Natural Program refer to natural and beneficial values, but we're talking about the same thing.

The Unified Natural Program pointed out that naturally functioning floodplains provide numerous benefits, economic benefits, environmental benefits, societal benefits, although the Corps and others are still trying to determine all the economic benefits of naturally functioning floodplains. That's a challenge into itself.

The resources of floodplains, basically three general areas, biological, water and cultural or societal. Water resources, the – basically floodplains function to store and convey waters. Natural system, we're thinking of it as green infrastructure, non-structural or green infrastructure. Natural systems improve water quality by filtering nutrients, reducing sediments, breaking down organic matter and so forth. And natural systems help to facilitate ground water, which (inaudible) drinking water supplies, reducing the frequency and duration of low surface flows during dry periods. And I had to admit, I looked up this morning on the EPA website, 80% of the water systems in the U.S. use ground water and that represents about 35% of the population of the United States on ground water.

I have to thank Jeanne Christie for her generous use of this slide and a few other slides. I wanted to point out – and I'm going to come over here because I'm just going to show and tell. Jean, where is this, do you know? Okay.

Jeanne Christie

I stole it from somebody. [Laughter]

John McShane

(Inaudible) It looks like a natural system but over here, the levy that (inaudible), this levy is (inaudible) and in the back you can see those are forming the boundary of the plain. But with this, this looks like part of the natural of the plain and I'll check and see where we are. But this true line here is part of the

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natural floodplain as well. It – like I said, if you notice these four circular structures, anybody know what they are? Yeah, it's a wastewater treatment facility out of harm's way in this particular flood. But a larger flood perhaps would be inundated. Another one of those ecological damages. A lot of – we heard from Nashville too how many millions of gallons of raw sewage in the river?

Oh, I did have a quote, I'm sorry. I knew I was going to mess up. I took my notes because I didn't want to read from them. But I found this great quote, 1937. The Engineering News Record. "Rivers were here long before man and for untold ages every stream has periodically exercised its right to expand when carrying more than normal flow. Man's error has not been the neglect of flood control measures but his refusal to recognize the right of rivers to their floodplain." 1937.

The other important function of natural floodplains is improving water quality, helping to protect, restore and maintain the chemical, physical and biological integrity of the nation's waters. Flood control structures do a very good job of conveying flood water. Unfortunately, they often degrade the water quality. In this example, this stream does not meet water quality standards, especially for dissolved oxygen. In addition, the biological integrity of the stream has been lost because it disconnected from its floodplain in repairing area.

This stream, on the other hand, does convey flood waters and its water does meet water quality standards. The shade helps to keep the water cool and dissolved oxygen levels high. And I have to tell you, I saw a mink down and along the edge of this stream a year or two ago, a nice indicator of a naturally functioning system. And this is not a stream out in the wilderness somewhere. This is actually in the middle of suburbia, not too far from where I grew up, just north of New York City.

Some biological resources – floodplains traditionally have rich, eluvial soils which promote vegetative growth and leading to high biological productivity, biodiversity and so forth. And also floodplains provide numerous habitats for fish and wildlife, breeding, feeding and nesting areas for waterfowl, and as I'm going

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to point out in a minute, these small vernal pools and shallow areas are critically important for a wide variety of species.

And I found another good quote. I was flipping through a magazine the other day. “Flood events shape natural channels” – excuse me, “Flood events shape stream channels move natural materials and recharge wetlands, side channels and stream-side meadows creating the pools, covers and other habitats important to fish and wildlife.” And here’s a good example of that. Just a small part of the watershed, a small part of the floodplain, a critically important – a lot of fish will come in here and lay their eggs, amphibians, salamanders, toads, you name it. So these areas are critically important.

Looks like a lake – this is not a lake. It’s actually the edge of a floodplain. It’s only a few inches deep and only lasts for a few weeks in the spring or early summer. But again, these areas are critical spawning areas for a wide variety of species such as the American Toad.

And even 19th century artists appreciated the small, backwater, floodland plain, wetland areas. And if you look carefully in the bottom left, you can see some wetland species and I bet, Bill, you can identify some of those species if you look carefully enough. I’ll show you the actual picture; you can actually identify the different species.

Wetlands are especially important features in the landscape. They have features and values both biological and water resources. Wetlands are extremely ecologically productive, they provide critical habitats, they improve water quality, restore flood waters, help to buffer storm surges, et cetera. Very, very important features in the landscaping. 70% of the wetlands – it’s been estimated that about 70% of the wetlands in the United States are actually located within river (inaudible) and coastal floodplains. Whoops. Oh the map didn’t show up. What am I doing wrong? Oh, there we go, okay.

Thanks. This is a false color image. It’s about one square mile. Just to give you some bearings, if you look at the upper right and lower left, you’ll see some agricultural fields. And there is a stream running from the top to bottom.

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And let's overlay the wetlands, what a nice repairing wetlands. And a few isolated wetlands I think are in there. And now let's overlap the floodplain map and lo and behold, a lot of coincidence. About 70% of the wetlands are located in this rivering floodplain. Jean, do you know if this is 100 year flood or is it – I'm thinking a 500 year flood would probably fill up even more of those wetlands.

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Jeanne Christie (away from microphone)

It can. I (inaudible) this with EPA. [Laughter]

John McShane (away from microphone)

(Inaudible), that's great.

Jeanne Christie (away from microphone)

(Inaudible)

John McShane

Okay. All right, but you get the point. And this is what it looks like on the ground, a natural system, the stream flowing, wetlands, repairing zone with the vegetative repairing zone.

And I wanted to talk just for a minute about coastal wetlands. They are extremely productive. In fact, coastal wetlands are among the most ecologically productive in the entire world. Coral reefs are equal or just a little more productive than coastal salt marshes. And there is aesthetic value in coastal wetlands, try to buy property with any kind of open space near the coast and you'll know. A nice sea trout, actually caught not too far from these wetlands and as many of you know, wetlands, coastal wetlands have been called the nurseries of the sea. Something on the order of 80% of commercial fisheries along the Eastern gulf coast depend upon coastal wetlands at least sometime in their life cycle. So coastal wetlands, critically important. And they only constitute about five or 10 percent of the wetlands in the United States but they're critically important. They also, as I think most of us know, provide important benefits as far as storm surge, drawing storm surges.

Unfortunately, building on a barrier island may not be a good idea when a storm surge comes along and takes all the homes and throws them into the wetlands. This was, in fact, a nice, coastal, productive wetland; it's now full of

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debris, for miles and miles and miles. This is actually from Hurricane Ike near Galveston, Texas.

I do want to mention one cultural resource, agriculture. As most of us know, I think the cradle of civilization actually occurred in the floodplains of the Tigris and Euphrates Rivers, 10,000 years ago or so. Again, floodplains have rich, alluvial soils, generally flat terrain which is conducive to agriculture. And interestingly, again this year, I understand that the U.S. state programs, providing funds for conservation easements, for floodplain repairing easements, and yet there are more requests than there are funds. I think that's almost every year you keep on hearing that.

A nice illustration of agricultural field in a floodplain – this field is actually still in production. It's now growing corn, except the only difference is the repairing area is much more vegetative. And bear with me – floods are natural events, the floodplains store and convey flood waters, provide critical habitats, improve water quality, are great for agriculture and have numerous economic, environmental and societal values.

Forest fires are also natural events and necessary for maintaining the ecological integrity of forests. But just as floods help to maintain the ecological integrity of the repairing zone and the integrity of the natural resources and functions of floodplains. Thank you. No questions, I understand.

Deb Ingram

No questions.

Unidentified Male

(Inaudible) to deny the presentation?

Deb Ingram

Okay, thank you.

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Okay, great, thank you John. Okay, your next presenter is going to talk with us about the federal perspective regarding key challenges of floodplain management. Ed Hecker serves as the Chief, Office of Homeland Security and the Provost Marshal for the Directorate of Civil Works, Headquarters, U.S. Army Corps of Engineers. Ed is the program manager for all of the Corps efforts to assist federal, state and local emergency management and emergency response organizations with mitigation, planning, training and exercises necessary to build and sustain capabilities to provide protection from and respond to any emergency or disaster. His responsibilities also include leadership of the Corps' Homeland security and Emergency Management Community at Practice and protection of the Corps' critical water infrastru (sic) – water resources infrastructure. Ed.

Edward Hecker, Chief, Office of Homeland Security and Provost Marshal, Directorate of Civil Works, Headquarters, U.S. Army Corps of Engineers, Department of Defense - Key Challenges of Floodplain Management: Federal Perspective

I'm going to actually speak without PowerPoint this afternoon so it's challenging. [Laughter] We're observing national no-PowerPoint month here in Corps of Engineers. But actually I think you can get the point pretty much of what we're trying to accomplish here with the interagency floodplain management task force, I'll call it reinvention, resetting, reincarnation, everyone has characterized it. But just from the presentations you've had thus far, you can see the viability and the importance of 10 to 11 federal agencies with all programs that deal with water resources and floodplain, flood risk, flood management challenges in this nation, coming together to look at how we can build our programs together to accomplish this common objective of reducing the cost, the damages, the risks associated with floods in this nation. And we really didn't plan this to happen right after a major flood, the Cumberland River Basin and Kentucky and Tennessee. But that certainly serves to underscore the reason we are all here today.

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If you can look back at the events of 1993, and I see a few folks that were here to walk through that series of challenges with us, that were then somewhat repeated in terms of the impacts and the consequences in 19 (sic), 2008 in the Upper Mississippi, not quite broad-based a flood event as '93 was, but certainly in the Upper Mississippi it was the same or greater flow and the same or greater consequences. It really did very little to reduce the risk and the cost of flooding on the Upper Miss and those intervening 15 years displayed some very good suggestions and initiatives and opportunities to do so.

Another example, '97, Red River, the north, you know, we did a lot after that to kind of address Grand Forks but obviously the rest of that basin remains very flood prone and both last year, 2009, and this year again, we are up there exerting ourselves from a flood response standpoint to address the flood risk and the challenges and the floodplains in that unique basin.

So we're trying to break the cycle in a way to look at not just having to come back to these repetitive, these watersheds with these repetitive flood cycles and actually start engaging some strategies, some tactics, some interagency, intergovernmental collaboration to look at how we can change this at the system level. And the only – with no one agency in front of you today or in the audience can do that in and of its own programs, in and of its own vision, in and of its own partners and customers if you will. We have to work together across the interagency and with the state and local governments and with the private sector, as mentioned a couple of times already. So yeah, we've got federal programs that are dealing with housing, with clean water, with transportation, endangered species, all the safety and emergency response, agriculture and energy, all represented on this task force. And again, this is not something new, this is something really that goes back to '77 in terms of its origin. But it's about that in terms of its conception. And you know, we've just kind of, with all the dynamics and you know, public agency initiatives, priorities, we kind of lost some traction there. But I think we all are committed to regenerate this initiative.

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Part of what we look at is short-term and long-term approaches. There are some very definite short-term approaches that we can take and Mr. Salt mentioned Silver Jackets. You know, that is one of the – key tenants to - a couple of key tenants to Silver Jackets is it's all about state leadership. It's not about the federal agencies coming in with our programs and imposing them on the states and potential solutions in critical watersheds in the state. It's about the state identifying its priority, how it wants to develop the watersheds that are critical to that state and how the collective federal agencies can enable that desired outcome at the state level. So the states are in charge. We've got to roll that up, as Rock said, to this regional flood risk management team concept so the power of breaking the cycle is looking at the Upper Midwest floods that occurred in June of 2008, we went through our typical cycle of repairing the levee systems up and down the Upper Miss, and yeah, that's what we did in '93, in many cases the very same levees. But we stepped back with those at state and local partners, and said, okay, we can break this cycle if we can start looking at the way ahead, to have a vision for that watershed that is more resilient to floods in the future. So guess what? We put the states, each of those five states in the Upper Miss have all charters, Silver Jackets teams are all working both individually within the state, with all the federal agency partners supporting them, and then at the regional – regional flood risk management team, they come together to suggest what we can do to enable them to achieve their objectives.

So now we have the national forum, where if we need to adjust policy, if we need to adjust resources, priorities, whatever we need to do across the interagency, we can enable all the way down to the state level what they're trying to accomplish. A lot of this is very simple use of the tools we have for modeling and simulation events we know are going to occur and that basin again over some recurrence interval. So it's no mystery, we should not be surprised if we have another flood in the Upper Mississippi or Red River North or Sacramento/San Joaquin in California. It's going to happen, we can assume it, we can tell you exactly what will happen. As a matter of fact, some of the

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presentations I can show what the flooding will look like in these areas, when, you know, the next flood of, you pick it, one percent, two percent, point five percent occurs in those systems. So what is the limiting factor in this, us getting together, federal, state, local and private sector and looking at how we can address that challenge collaboratively to change the consequence – consequences of that next event. And it might take several cycles to achieve whatever that watershed level vision is. But together, you know, we are confident we can do that.

This can be one example of Silver Jackets and how this can work. This might seem inconsequential but it's kind of systematic of what we can do. They start of, the state of Ohio with our first pilot, Corps, FEMA, FEMA Region 5 and Corps Lakes and Rivers Division, and we did some – State of Ohio challenged us to look at the Marianna River Basin as their highest flood risk watershed, they just had a major flood event and repetitive nature every two years. So we're looking at, you know, what kind of enabling process could they put together that would emphasize non-structural (inaudible) in that basin and with the federal agencies supporting. And so one of the things they realized, they don't have the gauges they need in that river system to actually tell what the river flows are going to be and get flood warning systems in place and, you know, look at enabling some of these alternatives.

So USGS did not have the funding for those gauges. Economic Development Administration has said, we have a program that can fund the gauges. So just that forum produced a very simplistic solution to something that will provide long-term benefits to the overall strategy and plan that that particular community put together. They established their community, they took charge of their flood risk and their floodplain management initiatives. So what we're looking at is – what we're looking to do on those lines short-term, but the long-term, you know, what can we look at if the watershed level for this kind of approach, and then as we look at – what we're doing at an interagency, floodplain management task force standpoint, this is where we need some input from this group. You

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know, we've got other mechanisms on the books, Executive Water and Floodplain Management, 11.88. We've got the Unified National Program also prescribed in the earlier legislation. We've got – FEMA's working on in terms of the reauthorization of NFIP. We've got what the Corps' working with FEMA on and other state quarters to generate a national levee safety program. Many initiatives at the national level that we need your ideas, your thoughts, so that we can kind of put these together in a sensible way at the national level to enable these results, these desired outcomes at the watershed state and local level. So if you can give us those inputs – what we're putting on the table is our collective programs and initiatives, our policies. If we need to pursue some new authorities, you know, give us your ideas in that respect too. But you know, what we're looking at is one federal phase to this problem working with state and local agencies and the private sector. And any ideas you put on the table, we commit to you, we will take them seriously and we will kind of put them in the mix as we then charge by CEQ to put together a five-year plan with some clear objectives to address this national challenge. So look forward to hearing your input. Thank you.

Deb Ingram

Thank you, Ed, and with your introduction and discussion of the Silver Jackets, that's a nice segway into your next speaker.

Sam Riley Medlock is going to talk with us about the state and local perspective on the key challenges of floodplain management. Sam is the Policy and Partnerships Program Manager for the Association of State Floodplain Managers and the ASFPM Foundation. She is responsible for providing leadership and national flood policy initiatives and fostering partnerships with allied agencies, organizations and academia in service to ASFPM's members and mission.

Sam has more than 18 years of experience and has her mitigation in environmental policy working with stakeholders, regulators and utilities. And she

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co-authored an interesting report, “Mitigating Misery: Land Use and Protection of Property Rights before the Next Big Flood.” Please join me in welcoming Sam.

Sam Riley Medlock

Thank you very much. And I’d actually like to acknowledge my co-author on that Mitigating Misery article, Ed Thomas is in the audience too and that article would not have been possible, and in fact, a lot of my accomplishments heading into law school and since would not have been possible without Ed. The mentoring of Ed Thomas much appreciated.

I’m going to take a little bit of time talking about what I’m going to cover briefly. We’ve experienced in this nation a series of wakeup calls and if there’s a theme through my discussion this afternoon, it’s that we really cannot afford as a nation to hit the snooze. Also, state and local governments represent the first and last line of defense when it comes to identifying risk, managing risk and reducing it. Integrated approaches work. And then finally, what are some next steps.

I’m also speaking without PowerPoint so bear with me because I’m going to be drawing on a lot of history. And I will also begin with one of my favorite quotes, “Despite substantial efforts by the federal government to reduce flood hazards and protect floodplains, annual losses from floods and adverse alteration of floodplains continue to increase. The problem arises mainly from unwise land use practices. Because unwise floodplain development can lead to the loss of human and other natural resources, it is simply a bad federal investment and should be avoided.” Those words were spoken actually accompanying President Carter’s statement with Executive Order 11988 in 1977.

I was in the third grade, and in the 33 – so you can do the math. In the 33 intervening years, I think we have to ask ourselves, what has changed in terms of the major muscle movements of federal policy and national practices. What has changed to alter state and local government policy and choices and practices? That, I think, is the grand challenge for this group. So I commend this reinvigoration and the recommitment to the federal interagency floodplain

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management task force, its mission and goals, and very much appreciate being a part of this.

I started off with a quote related to an Executive Order and I'm going to stick with that theme for just a moment. We do need for the nation, an updated Executive Order on floodplain management. Federal facilities and critical infrastructure continue to be placed at risk, flood damages continue to rise, destabilizing local and national economy and add to the national deficit. The purpose of a new Executive Order can be to drive innovative, bold state and local initiatives. The Association of State Floodplain Managers recommends that an updated Executive Order promote a 500-year level of protection for critical facilities, encourage and incentivize robust planning and non-structural measures, and improve coordination and consistency. And that's vertical integration as well as horizontal. We need a deeper partnership and a deeper understanding for state and local governments about what their roles and responsibilities and opportunities are. And in keeping with the theme I mentioned about integrating across program, we know where we're doing good. National Resource Management and Protection and Restoration, where we're protecting and preserving water quality and water supply. Chances are good we're doing a good job managing our flood risk as well. When we focus on either one of those approaches, we may miss opportunities to do good program interaction and integration.

I've worked in my past with a lot of very small rural communities and I really encourage those folks to look at the advantages of having the floodplain manager, the person who does sewer permitting, the person who reviews water quality issues, and the person who, for example, looks at septic systems, all wrapped up in one individual. As communities grow, they often lose that integration and programs become stove-piped. We also see that across the federal family as well.

A couple of other lessons from the past – 199- 77 report from the Corps of Engineers, just on the subject of levees for a moment, the 100-year urban levee

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is not appropriate. This is a lesson from 1977. The standard project flood level of protection should be adopted as the required level of protection for urban areas. Also 1977, Director of FEMA engineering suggested recognizing for NFIP purposes, only standard project flood levees. 1979, Corps policy memorandum, the SPF minimum level of protection should be recommended for urban areas. 1981, the FEMA flood administrator stated, “The 100-year standard is encouraging construction of levees to the 100-year design level for the sole purpose of removing an area from the special flood hazard designation.” She continued, “Crediting a levee system with protection against only the 100-year flood could violate the spirit of the National Flood Insurance Act.” 1982, National Research Council Report, Levee Policy for the National Flood Insurance Program recommended requiring local governments to engage in robust land use and regulations in areas of risk. Recommended again, 1982, mandatory flood insurance behind levees. And, I’m quoting here, “Consideration of loss of life and economics may dictate more than the 100-year level of protection.”

Since 1982, what has changed? How many federal dollars have been continually invested doing things the old way? This is the group that is uniquely qualified and placed and tasked with the challenge of changing those practices and priorities.” I’ve said, keeping with the levee theme, that we’re entering an era of levee triage. The process of prioritizing federal response to flood risk associated with levees and rationing scarce federal and other public dollars on multiple objective risk reduction projects that may include floodplain restoration, reconfiguration of structural systems, and combinations of approaches are going to make the best use of those limited public dollars.

But we have to also incentivize and drive different state and local government practices to assure the success of a national flood risk management initiative. The federal government will need the participation and the commitment of state and local governments and the private sector as been mentioned. Communities and states will need to commit to inclusive and broad and even regional planning processes reaching beyond their jurisdiction borders, some of

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them for the first time. They'll need to review and integrate all of their existing plans for land use, hazard mitigation, infrastructure and capital improvement and investment, and many other responsibilities. Finally, important data will need to be acquired, generated, maintained and used for things like the National Levee Database. So we have a full sense of the – full scope of the nation's exposure when it comes just to levee issues.

But stepping back, just from levees and levee safety, 199 – or, yeah, 2007 WORDA (sp) stood up to the National Committee on Levee Safety and I'm honored to be part of that effort. I see many of my colleagues on that group and also our brilliant facilitator that has kept us on track and generated some detailed and comprehensive thinking on the subject of flood risk and levee safety. More levee safety, more flood risk is needed. But what we haven't done as a nation is taken a broader look at the overall flood risk management calculus and doing that level of concerted and comprehensive analysis, development of broad-based and bold recommendations, on the larger issue of managing flood risk. I encourage this group to call for that type of an analysis. The energy and resources going into the Committee on Levee Safety are important but very focused solely on the levee. We need to take a larger step back and take a look at the overall flood risk management picture and then figure out where levees fit into that analysis.

There also need to be policy distinctions between how the nation addresses existing levees and emerging risk. Under the current outdated policy based on attempts to control flooding with engineered solutions and engineering our rivers, government at all levels has invested tremendous resources in and behind levees throughout the nation. But a new national policy needs to address the existing inventory that we have at risk but also change how local and state practices may add to that risk. I often mention in groups like this, just in the time that we're sitting together this afternoon, permits are being issued, many of them unwisely, and many of them under tremendous pressure on particularly local government to build economic development and grow their communities to

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provide for very basic needs for their communities. It's tough when you're asking a local government to choose between their police force or upgrading their wastewater treatment plant or providing for other community needs, keeping the lights on at the park for Little League at night or managing their flood risk. What we have to demonstrate to local government is that they have to do it all and that the flood risk management part of the equation is going to be start some of the smartest money that they invest since it's about protecting all of those other investments and activities that insure that that community will be there in 50 to 100 years and beyond.

And I was told as I stepped up that I had until 2:15, is that correct? No, okay. Then, because I can do it, I can talk with you until 2:15, but I'm not going to. I see that Dr. Galloway is here so I'm actually going to wrap up very quickly.

We talked about the need for a national flood risk management program. There's a lot of detailed opportunities and information on that, see me afterward if you'd like more. But I'd like to wrap up with some specific ASFPM recommendations for this task force. First, make this task force permanent, come together regularly and develop a long-range strategy and yearly work plans. Historically, this group has done tremendous work, now is the time to come together and do it again. An active task force that is engaged with state and local partners can again accomplish its mission for the nation into the future. We do need also to update the Unified National Program for Floodplain Management. This document has served for critical benchmarking for key activities and helped to drive important decision and served as the focal point for that interagency dialogue that is so important to the success of what each of those agencies are doing. We need to update the 1992 National Assessment of Floodplain Management in the U.S. We need to address federal leadership actions, specifically again, updating the Executive Order on floodplain management, reinvigorating that order, and giving state and local government the leadership so that they know that the decisions that they make are consistent with national policy. Thank you.

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[End of Tape 1 59:36]

[Begin of Tape 2]

Deb Ingram

(Tape begins in middle of sentence) ... and a member of the Nine National Academies Committee studying a number of complex water resources and geospatial management issues. Please join me in welcoming Gerry Galloway.

**Dr. Gerald Galloway, PE, Glenn L. Martin Institute Professor of Engineering,
University of Maryland - 50 Years of Floodplain Management: Concepts &
Actions**

Thank you all very much. I tell you, I just came from teaching 60 freshmen and you look a lot happier than they do. They – they're sitting inside on an absolutely gorgeous day on campus and they're dressed a lot more informally than you are. I tell you, things have changed.

But what I'd like to talk to you about is 50 years of floodplain management. A little bit of history because I've been there. In 1960 plus, my father sent me a document that had been sent to him, he was in the Corps of Engineers, sent to him by the Chief of Engineers, talking about this new concept called floodplain management.

In reality, it was written by this, led by this individual, Gilbert Fowler White, whose name will keep popping up. Gilbert White, for those of you who don't know his background, graduated from the University of Chicago with a masters' degree, came to Washington in 1936 as part of the New Deal and the Mississippi Valley planning, and worked a deal with the whole issue of floods in the Mississippi Valley for some period of time. He was there at the time of the great 1936 Flood Control Act, he worked in office management and budget. But he had a very unique side, he was a Quaker and when war broke out, he said he really couldn't stand, could not stay in the federal government and be part of the machine moving forward. So he and some friends who were Quaker went to Europe in France and he helped for two years until he was captured by the Gestapo, smuggling Jews out of France to free territory.

He then came back and – normal career, University President, worked on a number of things. But as you'll see, his dissertation was something that made a difference. In 1942, he finished his dissertation shortly before he went overseas and he – then this dissertation focused on the whole idea of dealing with floodplain management, who occupies the floodplain and what are our

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responsibilities in occupying the floodplain. He had a colleague that he convinced when he came back from World War II, Jim Goddard who was the head of what would then become floodplain management in TVA, and we began to think about doing something different than flood control, which had been in vogue since the 1920's. Nothing wrong with flood control, and in response to what Sam just got through saying, and I'm very happy she was quoting a lot from Chapter 8 of the University of Maryland study on the one percent standard, but levee is not a four-letter word. It's where it's used that it creates the four-letter words. And that's the challenge. Well, Gilbert White said, yeah, there's nothing wrong with having levees, there's nothing wrong with having people build structural facilities, but you really need to think about the floodplain in another sense. And he and Jim Goddard worked together, Gilbert's initial dissertation turned into the book you see up there which is the one I got from my father, which talked about all the experiences across the country and the need to do something besides just structural flood control. And so he started moving in that direction.

Early floodplain management, it turned out at the end of the '50s as this was churning about, the federal government had taken a lock on the idea of economic justification for projects and there was many documents that was speaking of this. Senate Select Committee came along though and said, wait a second, we're beginning to push out the environment, we're beginning to push out social effects, we're not considering the regional aspects, and so there began to be support for the ideas that Gilbert White was talking about. And in 1960, the Corps of Engineers initiated its first floodplain management services, its approach to doing that, and got the authorization. And in 1962, President Kennedy came into office and began to work on this idea of broadening the base from strictly economic benefit cost analysis to a benefit cost analysis that considered all the aspects of what's good and what's bad when you start working in the floodplain and with natural disasters and with water resources in general.

Well, that led to, in 1965, the Water Resource Planning Act, that did several things. As you can see, it started the idea of comprehensive basin level

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planning, it formed the water resources council as a coordinating body for the federal government, and it came up with this idea of having principles and standards that could be used to talk about what we're looking at in the floodplain. And you can see there that there are four accounts, the four accounts I just mentioned; national economic, regional economic; environmental quality; and something called other social effects. Well what happened? In 1966, a report was turned in by a group of nine individuals requested by the OMB, then the Bureau of the Budget, to examine what was happening in the floodplain. Gilbert White was the key in that particular exercise. And you can see what they've said, we've really got to take a systems approach to dealing with the floodplain. We've got too many people doing too many things and they're counterproductive. And I think he was able to convince people. He made this statement in there, or the report said he's given credit for it, that floods are a natural event. We need floods, they help reinvigorate our farm land, they create the wetlands that for example protected coastal Louisiana. The flood damages occur when we get in the way or we don't properly protect our people from the onslaught of these floods. So we've got to do something about it; we need to know what we are doing.

What's interesting and often forgotten is the prelude to the Jimmy Carter Floodplain Management Executive Order, one issued in 1966 by President Lyndon Johnson. And again, you can see the sorts of things he's talking about; provide leadership to the federal government encouraging broad and unified effort in the floodplain. We're trying to preserve, prevent uneconomic uses, perverse the wise uses of the floodplain, and lessen the risk of flood losses in connection with what the federal government does. It was focused on federal government, don't go out there yourself and put yourself at risk and don't put other people at risk with federal dollars. So this goes back as far as 1966 and Lyndon Johnson had lots of things on his platter but he took the time for this Executive Order.

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In 1968, as a result of major hurricane damages and other floods that occurred in the country, we came up with the National Flood Insurance Act, and we appreciate what it did. It relates to a unified national program; that's where the term, unified national program came from. The 1968 Flood Control Act said we need to go at this and we think there needs to be one, we want you to prepare a unified national program and we'll sign that responsibility. The administration did to the Water Resource Council that had been formed under the Water Resources Planning Act.

So we have the need for unified program, we need – have these proposals prepared by the Water Resource Council and submitted to the Congress. And so you can see, by doing this, it was to be, and it was, the first version of this, fully consultive. People went out and talked to at the local level and the state level and worked on what do we need to do in order to take care of our floodplain issues for the long run.

In 1976, the Water Resources Council issued the principles and standards for Water Resource Development and it was a process and evaluation of the projects that were there. Again, the same four accounts moved from the initial authorization legislation in the background to that to the actual publication of the principles and standards. In 1975, the government accounting office came in, and you can see what we're talking about, they said that under the 1966 Executive Order, federal agencies do not adequately evaluate the hazard; they're not doing a good job of dealing with this. It was something that passed over their heads, President put the Executive Order out, and then moved on. And then it's limited effect in restricting the damages that are occurring, the activities that are supported by the federal government, and we, the GAO, recommend that something be done about that.

Well, in 1976, the Water Resource Council updated the Unified National Program and put out their version of the Unified National Program as a conceptual framework for floodplain management. It recommended improving floodplain management and programs are a prerequisite for federal expenditures.

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So as early as the '76 Water Resource Council Unified National Program, the objective was not to stop development, but to insure that what we did was properly done and that we're expending money where there's going to be a payoff and not a disaster.

In 1976, the Interagency Floodplain Management Task Force was established. It was spurred by the Water Resource Council technical group that was dealing with these sorts of issues. And they said it was time to get all the federal agencies involved. FEMA joined in 1979, as you can see, and the states were represented by the Association of State Floodplain Managers as an observing organization, again because of the legal rules, they weren't allowed to be a member but they were certainly a part of this task force and were very important part of it. And they were to provide continuity of communication among member agencies related to floodplain management, very much like what Sam just got through talking about.

In 1977, when Jimmy Carter came into office, and you can see that, May 24th, just remember, he went into office on February the 20th – excuse me, January the 20th of 1977. And what do you see? Three months later he has this Executive Order out because as you all may recall, those of you who are historians, he also put out something called the Water Resources Review, looking at water projects throughout the country. He was very interested in this, had read up, he was – I had the opportunity to interview him before he was in office, while he was running, and this was something that was of great interest to him. Those from Georgia would recognize his interest particularly in the areas we're fighting about right now, the Chattahoochee and the Flint and the Apalachicola. He knew about those things and in this case he said, I want to put more emphasis on the federal government doing its part in reducing losses in the floodplain, by one, not doing anything on their own that's going to cause more damages and two, not supporting others who might move in this direction. So a directed federal agency said to move out in this direction, prepare the implementing regulations for this.

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The next year, the Water Resource Council, in response to the President, came up with additional guidance, amplifying guidance for the Executive Order that said you will do these sorts of things, and it included the critical actions and the 500-year floodplain. People have noted that that's something new in more recent times, but no, it was part of the original document and with President Carter's staff working on what was called then the Water Projects Review, and also working on the Executive Order, that just didn't get into the print and this became the way of making it an official document. And it was the basis then for the federal agencies to go out and create their own guidance. And as you can see, they then, in 1979, the task force came up with another version of the Unified National Program to reflect the emphases that were in the Executive Order.

In 1982, Congress said, we can go into this some other day, and zeroed out – not Congress, excuse me, the administration zeroed out the Water Resource Council and OMB transferred the responsibilities for the Unified National Program for the Water Resource Council to FEMA and gave them the authority to create the Interagency Floodplain Management Task Force that we're talking about today. So FEMA became the chair and became the operational element for dealing with this coordination.

In 1983, the administration again, in a review of what they thought were the appropriate objectives, eliminated the three accounts – didn't eliminate them, they made them very secondary and established as the principle objective the Federal Water Resource Development National Economic Development. So National Economic Development superseded the other three. There was no staffing, there was no general movement around the country to talk about this. This is just something that happened under the guidance of what was then the Water Resource Council but was essentially the Secretary of the Interior.

In 1986, the new, the – under FEMA, FIFMTF, the task force established and put out its first real Unified National Program and it established our goals, reduce the loss of life and property and reduce the impacts on the natural and

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beneficial environment, something that was very important for everybody. They recommended an evaluation and that was probably the biggest thing to come out of this particular document. People were beginning to move in this other direction, had been pushed back by the new Water Resource Council principles and guidelines but the second part is, what we really need to do is evaluate where we are. The assessment that Sam mentioned, the idea that we could look at what's going on in the country and report to the federal government what was really happening with our floodplains. So this was the spur for later action to create that evaluation.

In 1987, they initiated this under a contract for a full scale evaluation and that document is still around, it's worth picking over if you haven't seen it. It's on the FEMA website, it will tell you a lot about where we were and how little and how much we've changed in some areas. In 1992, the task force submitted that report, it was finally received, and it provided this national report card for floodplain management.

The second part though, the notes came out of a ten person group. I happened to be on it, it was chaired by Gilbert White who said, we've made progress in moving along but our Unified National Program is neither national nor unified. And that was kind of a needle to the fact that we weren't bringing everybody under the tent. Everybody wasn't playing and for a variety of reasons, the report indicated that the states, some states were very aggressive in participating, other states were not, it was a problem, we didn't have everybody participating and dealing with the issues that needed to be dealt with.

From 1978 to 1994, these are the number of products that the task force came up with. So when you talk about what does the task force do and what sorts of things can it help with, they did any number of white papers and reports that were commissioned by agencies for them, were done under their direct supervision and then sent on, and made significant impact on the community as a whole. They didn't address the broader fundamental issues but they addressed the issues that were a concern to those of you in the private sector and those of

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you who are working at the state and local levels. So it was a carefully worked-on program that had results, tangible results that could be seen.

Well, what happened next? Well, it was the 1993 flood on the Mississippi that brought everybody's attention. As many of you have already noted, what happens is we fall back into a lull. Gilbert White once noted that the half-life of the memory of a flood is very short. It's here, two years later people say, what flood, and don't remember, why should we help Cedar Rapids or why should we help someone else.

1994, there was an Executive Office of the President, Interagency Floodplain Management Review Committee, put out a report called "Sharing the Challenge." I had the good fortune to lead that task force and we were supervised by the CEQ as you can see, OMB, the Department of Agriculture, Assistant Secretaries or Assistants to the President. And what we called for was a Floodplain Management Act which carefully defined the responsibilities at state, at the federal level, and at the local level and the individual level, the responsibility of an individual to take care of their own responsibilities. You can read that to be flood insurance or wise use of their own land. And you can see the other things it talked about. It also said there needed to be a revision to the Executive Order, at least new attention brought to it, because federal agencies were not obeying their own Executive Order. They were not – they were citing facilities in the floodplain that were damaged and the exposure to the federal government was enormous across the country.

The report focused not only on the Mississippi but at the National Program, and again it sought increased coordination. The absence of the Water Resource Council, the killing of the Water Resource Council in 1982, essentially cut back on the high level coordination that takes place within the federal government.

1994-95, the Floodplain Management Task Force put out another version of the Unified National Program. Now this one came right on the heels of the report from the Executive Office of the President and in the cover letter, James

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Lee Whit notes that the two of them were blended together, that they were compatible with each other, they were supportive of each other, and they both had the same objective. John McShane was working on that particular effort and had a major role in that. But that report is the last one that has been published. But interesting to note, it was sent to the Congress with a letter by the President of the United States on top of it. It was not just another report that was produced and thrown over the transom, no, it was sent by the President of the United States. And it talked about goal setting and having a monitoring system, knowing what's going on, dealing with the issues of reducing the risk, and setting quantifiable goals as the amount of risk we reduce within a certain period of time, and the nationwide capability to figure out what we're doing out there. One to evaluate what's there, understand what – oncoming GIS wave that had just hit the country then, it was obvious that we could figure out who was exposed, who was at risk, not only in what zone they're in but what elevation they're in and a lot could be done. And then, it noted again that the Unified National Program and the Sharing Challenge Report helped each other and spoke to the same sorts of things. Well, what happened after that?

(Inaudible) of the Congress by the President and then from '95 to 2001, a number of activities took place. Unfortunately, the chair of the Floodplain Management Task force retired, at the same time, FEMA created the project Impact Effort, and as you all know, that was a gangbuster's opportunity to go out and help the communities make a big difference. So FEMA's initial focus, which had been on the task force report, shifted into project impact, while the administration in trying to deal with Sharing the Challenge Report, had a task force that worked for almost three years, that dealt with all of these issues, but was running into a very interesting political situation. You all may recall, in 1994, there was a change in the governance of Congress. Almost every issue in the task force report and the sharing the challenge report had gone to the Congress in 1994 in the Summer and the committees were hard at work in them when the Democrats lost, the Republicans took over, and this is not a comment about

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Democrat versus Republican, but the committee staffs changed, the leaders changed and the priorities changed. You may recall the Contract with America. So committees went into the first session in 1995 with an entirely different platter of activities they wanted to undertake and floodplain management didn't happen to be one of them.

So for a long period of time afterwards, the administration tried but was unsuccessful in moving some of these things through. And then, in 2001, 2005, we saw the push for and the initiation of map modernization. So some things did take place. Well, we had, of course, Katrina and then we had Cedar Rapids, the Midwest floods of 2008. So what's happened?

Well, from 2002, 2009, I want to make a note from the historical standpoint to pre-Katrina. FEMA and the Corps of Engineers and the federal agencies didn't wait until after Katrina to deal with some of these issues. In 19 – excuse me, in 2004 and 5, prior to Katrina, ASFPM and NASMA had asked the Corps of Engineers and FEMA to get together with them and work out on a collective basis the challenges that needed to be done. FEMA had established an interagency task force on levee policy. I happened to be asked to be the chair of that and we began in 2004 to deal with this particular issue. And so at the time of Katrina, actually three days prior to Katrina, the Corps leadership and the FEMA leadership and the ASFPM and NASMA all met in Anchorage, Alaska and were all talking about solutions to the problems that became front page three days later. So there were things underway prior to Katrina.

Post-Katrina, there was ad hoc coordination for a long period of time, the agencies have been working to be together, some of the things have done a great deal to do that, the post-disaster teams, the National Committee on Levee Safety has certainly brought people together, Silver Jackets, Ed Hecker I'm sure has spoken to you about that. It's made a real difference and the regional teams that were established in the Midwest after the 2008 flood to deal with this – the levee – it's an extension of the levee task force which actually came out of the 1994 report and was founded by guidance from the White House. Map

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Modernization and now Risk Map and we certainly have people that have talked about the revised EO 11988. And then we've had the informal activation in 2008 of this task force. It became – started to work on it last year, the decision was made to move ahead, and we're here today to find out what we're doing. So where are we?

A lot of people, you can't read that risk, but it says there's a lot of people interested in floodplain management. When you look at all the agencies of the federal government, the state agencies, non-governmental organizations, we have a lot of people that have been from the very beginning to be involved in this and still continue to be involved in this. If you look on the left, what is was, sort of Washington Post, what's in, what's out, what we're talking about right now is we're looking at resilience instead of resistance and you can see each of those. The idea of shared responsibilities again, as Sam mentioned, and I'm sure others have mentioned, the idea that it's not just the federal government's responsibility to deal with floods certainly came up. Very clearly in this Sharing the Challenge Report, 1994, it said, we do not have a definition and states stand back. The interesting part is, you need a permit in Arlington County, Virginia, to build a shed in your backyard. I don't know what it is but I would guess that it does not require a state permit to build a levee. Most states do not even know where the levees are. In 2006 when we finished the levee policy task force report, two states had inventories of their levees, two states. And none had a strict requirement that every levee had to be permitted.

So there are lots of responsibilities that need to be picked up, not only shared. But while many people have said, we want a collaborative relationship, that means that everybody in the collaborative pool needs to work together. And you can see there, I won't go through all of those, but you can appreciate that we're really looking for a different way and you've seen that transition over time, with the same fundamental basis we started in 1960.

The Gilbert White forum, which is sponsored by the ASFPM Foundation, was held in 2007 to look at what the floodplain would look like in 2050, and you

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can see here that if we continue on the path of intensified development and look at the challenge of climate change, and you look at the challenge of maintenance of the structures that we now have, we have severe problems. On the other hand, if we begin to look at this in a coordinated method, we can still have effective use of the floodplain, development, and move ahead.

2009, we don't have an agreed federal framework yet. We've got many Sharing the Challenge actions incomplete. Senator Boxer asked in 2009 for a complete report on what was done and what was not done, that was submitted by the Secretary of the Army to Senator Boxer, that would be interesting to look at, limited coordination still among federal agencies. Being honest with you, I was asked to be honest; we've got a lot of people working on a lot of things because of the stovepipe silos that the authorizing committees in Congress established. If each person's building their own risk map program, we need to bring them together, but we need the Congress to do this at the same time. And many federal agencies are unfamiliar with EO 11988. It doesn't take long to poll agencies and ask them, what is your responsibility and where can you locate critical facilities and what are critical facilities under the definition of – with the guidance from CEQ.

It is very clear that there are some challenges there. And they begin in the federal triangle in Washington, D.C. which was under three feet of water after a storm flow flood in 2006. So there are some challenges out there.

On the table, you can see what we're talking about, the revision of the EO, the principles and guidelines, what its implications might be for floodplain management, how we coordinate the various programs, and the new initiatives that you've already heard about today. So thank you for your attention. I'd be happy to answer any questions or see you all at the breaks. But thank you.

[End of tape 25:12.7]