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TESTIMONY

Association of State Floodplain Managers

before the
House Transportation and Infrastructure Subcommittee on Water Resources and Environment

Comprehensive Watershed Management and Planning

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Background

The Association of State Floodplain Managers (ASFPM) envisions a number of key legislative policy changes in how the nation manages our watersheds in order to strengthen the programs that address water resources, public safety and socially and economically sustainable communities. Today we focus on a number of federal programs that sometimes work together and sometimes work at cross purposes. We appreciate the opportunity to discuss those with you today.

ASFPM and its 27 Chapters represent over 12,000 state and local officials and other professionals who are engaged at the ground level in all aspects of watershed management, including management of natural hazards and natural resources. These include land management, mapping, water quantity and quality management, wetlands management, engineering, planning, building codes and permits, community development, hydrology, forecasting, emergency response, water resources and insurance. Our state and local officials are the federal government's partners in implementing programs and working to achieve effectiveness in meeting our shared objectives. For more information about the Association, please visit http://www.floods.org.

Once again we are seeing devastating floods in the Midwest---likely billions in losses to farms, homes, businesses and infrastructure. Many of our members work for or with communities that are right now struggling to recover from flooding and will then be reviewing options and developing mitigation plans to reduce losses from the next flood. Most of these same areas were devastated by flooding in 1993, and Gerry Galloway led an interagency team to produce an analysis and series of recommendations in a report called: Sharing the Challenge". Unfortunately, very few of those recommendations have been implemented. I will not repeat them, since I assume Mr. Galloway will do so, and he has written a number of papers reviewing that lack of action.

The recent flooding tragedies in the Midwest again demonstrated some major problems with how we manage our watersheds in this nation. While many people seem to think the recent flooding was "unexpected" or unpredictable" the history in our nation and the world provide ample evidence that large natural disasters occur frequently and with a vengeance. While that flooding was occurring, it brought to light vivid examples of the failure of some of the nation's watershed management approaches:

- water pollution when waste treatment plants are flooded and inoperable,
- critical facilities like hospitals, fire stations, water systems out of operation because they were not located out of flood risk areas
- social disruption of hundreds of communities,
- businesses out of operation for long periods of time because
    - they were directly impacted by floods or
    - because their workers homes were flooded or
    - they could not get to work when roads were washed out;
- the community drinking water supply was contaminated--undrinkable
- levee design levels that are inadequate for urban areas led to numerous and catastrophic levee failures and levee overtopping
- Major bridges and roads were washed out, under water, or closed due to

exigent conditions
- Rail and transit such as Amtrak significantly impacted

All of these occurrences demonstrate problems with some aspect of how we manage watersheds----not just in how we manage floods or natural hazards.

Future trends that will impact watershed management approaches

In spite of heavy investment of public and private dollars and many decades of various programs of management, the impacts listed above continue, not just in this last flood, but many times in many ways. At the outset of the 21st century, unprecedented conditions—in the form of population growth and migration, changes in climate, and serious degradation of water-based resources—have entered the stage. They are colliding with the cumulative impacts of the last century's well-meaning but misguided policies, which have led to:

- failure to provide for the maintenance of infrastructure,
- short term economic development at the expense of natural resources,
- sustainability approaches that do not consider all elements of sustainability,
- incentives for development that result in urban sprawl and
- Transportation systems that focus primarily on roads and automobiles,
- farming programs that encouraged the draining of wetlands and use of marginal land for production,
- programs that address water quality without addressing water quantity,
- overreliance on engineering solutions for flood loss reduction—
- minimal support for non-structural adjustments to hazards reduction

All of these have combined to overwhelm current attempts to protect water-based resources and to reduce flood losses in our watersheds.

Without dramatic shifts in our approaches and actions, by 2050 flood losses are likely to be far greater, ecosystems may well collapse, the nation's quality of life will be diminished, and all hope of sustainable communities will be lost.

The trends for the next 50 years are dramatic and if we remain on the current path, we will likely see the following:

- add 100—150 million people to the U.S.---to about 450 million people
- increased urbanization, much of it in high risk hazard areas
- federal discretionary money all but disappears
- programs devolved from federal to state and local governments
- people want more from government with less taxes
- shrinking from personal responsibility
- private capital abounds, but needs to be harnessed for public good
- loss of natural ecosystems—and collapse of some
- technology and information overload—not always science based
- more intensive storms throughout the nation--climate change
- flood and hurricane losses will be horrific
- sea level rise threatens communities/business/infrastructure

- degrading and failing infrastructure that has been already ignored for 50 years-levees, dams, bridges, roads, water supply and waste systems,
- hope for sustainable communities will be lost

Some Historical Perspective
Watershed management in the U.S. has occurred in a haphazard fashion. Programs have been created separately, and implemented through stove piped programs. Water quality and water quantity programs are prime watershed management examples. Water resources development over the past 70 years has been justified by leveraging the economics on the back of destroyed natural and water resources.

Stovepiped Programs--At the federal level, which is mirrored among most states, water-related programs are stovepiped, with program coordination and cooperation occurring only on an *ad hoc* basis. Programs for flood management, water quality, habitat maintenance, dam safety, levee safety, stormwater, fisheries, watershed protection, and others are not integrated even though they are all based on the same inseparable land and water resources. Wasteful duplication of effort takes place across the board. Since the early 1980's there is virtually no federal leadership for the integration of water-related issues and programs within and among the levels of government and the private sector

Loss of Natural Resources--Because land and water were not treated as finite resources in federal policy we have seen many decades of continual degradation of resources. Some estuarine ecosystems will likely collapse. Vast acreages of coastal marshes have disappeared. There has been a notable increase in severe, localized water crises. Periodically, stormwater runoff in some urban areas is almost unmanageable. Groundwater supplies have diminished. Localized droughts are common. The shortage of fresh water is a matter of serious concern.

Increased flood levels--The urbanization of watersheds that has occurred continuously since the 1900s, along with impacts of predicted climate change results in the higher projected (and actual) flood levels in many locations throughout the United States. Millions of homes and other buildings that were elevated to projected 100-year flood levels based on earlier circumstances are now or will be below that level—sometimes far below. The idea of elevating buildings to a "safe" level may prove to be a futile goal. Whether elevated on fill or on piers or foundations, homes may be repeatedly isolated from the outside world (including emergency services) during times of high water— during disastrous flooding when several levees may fail. During those floods in the future, rescue workers, and fire and police personnel will be put at risk when tens of thousands of elevated structures are rendered inaccessible for months. The added cost of providing protection from fires, looting, and other dangers during those circumstances adds enormous financial burdens to the already-stricken local and state governments.
By 2050, numerous coastal buildings previously thought to be "safe" may be particularly hard hit by rising flood levels, if individuals and governments are unwilling to engage in strategic retreat from the shoreline and instead rely on engineered designs and construction standards that purport to ensure safety.

Federal leadership and standards for infrastructure and construction-- Federal agencies have been directed since 1977, through Executive Order 11988, to consider the flood hazard in siting or funding projects. However, in the decades since the issuance of this Executive Order, there has been inadequate enforcement of the order's provisions. Without adherence to the mandated standards or procedures, federally supported facilities, licenses, and infrastructure encourage a proliferation of development in and near floodprone areas.

It is critical to have consistently applied standards for selecting safer locations or requiring mitigation measures for such critical facilities as public buildings, roads, hospitals, fire and police stations, communications systems, power plants, and water and wastewater treatment facilities. The standards that do exist are unevenly implemented. Certain facilities, such as water treatment plants, too often are located in floodprone areas, precipitating subsequent arguments that flood control structures are needed to protect them. Facilities that in earlier years were considered not prone to flood hazard now are or will be exposed, both because of the rising flood levels brought by urbanization and changes in climate and because of more accurate estimates of flood levels.

By 2050 we will need far more infrastructure and public facilities to serve the higher-density development, but planning and designing the facilities will be more complicated than in earlier years because of changes in watershed conditions, concentration of people, and the need to account for evacuation of large populations. In the absence of clear, well-enforced, and amply funded programs for maintenance, infrastructure that is already aging will continue to deteriorate or collapse.

Disaster relief--The media has a tendency to dramatize all extreme events, glorify "victims," and hurry to cast blame. Even though public safety has always been the clear responsibility and primary function of local government, since the 1990s federal agencies have been highly visible in the media after disastrous floods and hurricanes, leading the public to believe that the federal government should and always will be on the spot, and that taking care of flooding is a federal job. In that environment, it is no wonder that federal officials continue to promise to deliver assistance and even pledge to make people "whole" again, even though the latter is neither possible nor their legal or financial responsibility.

The availability of federal relief after a disaster, especially in the form of public assistance to local governments, seriously undermines the cost-sharing arrangement required for taking mitigation action. Thus, those communities who do the least to reduce flood damage and flood risk to their citizens over the decades are rewarded with federal relief dollars while those communities that take action struggle to find funding. As a result relatively few localities and states manage to implement comprehensive flood mitigation measures in a watershed context**. An especially abhorrent situation is where a community can get disaster assistance for restoring public facilities even if it refuses to join the National Flood Insurance Program**----this must be reversed to place the cost on those who can create the problem.

People look first to the federal government for compensation for their losses after a disaster. In the absence of adequate compensation from that source, filing a lawsuit against localities,

engineers, designers, builders, and others will be a commonplace avenue of redress. The long and costly litigation process ties up the legal system, directs resources to attorneys, courts, expert witnesses, and others instead of those who were damaged by flooding, and favors those who can afford it, leaving economically disadvantaged parties without recourse.

Structural flood control--most of our structural flood control measures like levees, floodwalls, dams, and artificial channels are being overwhelmed by increasingly larger events. In some cases, development has resulted in more runoff and flooding that outpaces the structures' design levels. In others, maintenance procedures are faulty. In many places floods and storms increase in intensity, catastrophic events damage the structures, or their useful design life simply passed.

The single-purpose structural solutions preferred by many residents and communities in past decades have brought drawbacks that often outweigh their benefits. These drawbacks include encouraging "protected" development that may be protected from smaller floods, but is subject to catastrophic losses in larger flood events, to residual risk, the non-stop expense and diligence of maintenance, and the virtually assured liability that will ensue should the facility design be exceeded or fail. Flood-related lawsuits over flood damage stemming from structural flood control measures have proliferated. As technology and knowledge increase our ability to predict the cause and degree of flooding, owners of structures are less likely to escape liability by offering an "act of God" defense. Additionally, flood insurance is not required for development in areas protected by structural flood control. This gives residents a false sense of security and transfers the flood risk to the government.

Agriculture practices—Current programs for agriculture, combined with water resources policy provide some incentives that sometimes work against the public interest. For example, significant agricultural subsidies for water supply or crops can result in putting marginal land into production, or intensifying ag use on sensitive lands or lands where runoff from pesticides, herbicides or fertilizer have undesirable consequences, such as the dead zone in the Gulf of Mexico. All of these issues can be addressed through a comprehensive approach to watershed management—with a focus on integrating water quantity and quality management.

Recommendations

The ASFPM recommendations are made in light of not only current concerns and issues, but of the trends noted above. These recommendations are intended to foster change in how we manage our land and water resources, using watershed based approaches.

The specific recommendations ASFPM is making to the Committee are:

1. Comprehensive Watershed Management

Congress could consider passage of a **national water resources and floodplain management policy,** implemented through holistic techniques for ensuring both water quality and quantity and applied by state and local governments. The centerpiece of the policy could be that no unmitigated adverse impacts to locally designated values are permitted by public or private actions. **The federal government must provide leadership through a coordinating**

and integrating body for all programs, policies, and disciplines that have to do with water resources. The agricultural sector and the floodplain management profession would be allies in preserving sensible uses of riparian and watershed areas.

In the case of **land use**, **every state should be encouraged to have comprehensive land use planning** that begins with a template of watershed based land and water and related resources and hazards. Proposals for economic development, transportation, infrastructure, and other community concerns would be evaluated within the context of that template, with the objective of allowing no adverse impact on flooding, on other properties, or on the natural functions or resources.

2. Rooms for Rivers and Oceans.

Many **no-build zones**—such as deep coastal storm surge zones, deep riverine floodplains, and other high-hazard or environmentally sensitive areas—should be identified, analogous to the floodways and coastal barrier resources system units. These no-build areas would be respected in order to sustain the natural benefits they provide to society, including high-quality water, appropriate habitat for commercial and sport fishing, wildlife, and flora; groundwater recharge; recreation; and open spaces, in addition to flood damage abatement.

We need to begin a pattern of gradual and voluntary relocation or strategic retreat from the highest-risk and most ecologically sensitive areas, with climate change and long-term sustainability both in mind. State mitigation plans could incorporate strategies for vacating certain areas and converting them to safer, more natural uses; no federal dollars should be allowed to be spent on development in these areas. The Congress could encourage this through incentives to local and state government where the federal funding would be offset by savings in disaster relief

3. Reverse perverse incentives in government program

An independent, comprehensive review is needed of all federal programs that fund, subsidize, license, or promote development or redevelopment (including disaster relief, the tax code, housing grants, small business loans, and many others). **All of these programs should be reformed to eliminate the incentives they unwittingly provide for making unwise decisions and taking inappropriate action.** In their place, we must create positive incentives for appropriate action anywhere in the watershed, but especially in areas that are floodprone and/or ecologically sensitive.

Federal monies should not place people and structures at risk, nor contribute to the increased flood risk of structures and people. Many agencies will spend billions in taxpayer monies for efforts to rebuild after the Midwest floods. This includes the Corps of Engineers, FEMA, HUD, EDA, EPA, SBA and DOT. It is imperative those agencies do not increase flood risk, or cause flood risk to be increased through their actions or support. Federal Executive Order # 11988 directs all federal agencies to analyze their actions to avoid increasing flood risk by their actions to build, finance or provide technical assistance. **We**

urge this Subcommittee to conduct oversight of each program authorization to assure compliance with this Executive Order.

Federal agencies should adhere closely to E.O. 11988 and 11990 to eliminate federal projects, funding, licenses, permits, loans, grants, or other incentives that foster new or replacement development in floodplains that exposes people, property and taxpayers to added risk and costs. Public facilities such as causeways, bridges, roads that serve as evacuation routes, and water treatment plants should be treated as additional "critical facilities" under the terms of the Executive Orders

4. Restore and enhance the natural, beneficial functions of riverine and coastal areas.

A concentrated effort must be made to reclaim lost riparian and coastal resources wherever possible, including dunes, bottomland forests, estuaries, and marshes. This will help restore natural buffers to storms and floods, supply open space and recreational opportunities for a burgeoning population, and prevent some ecosystems from further deterioration. This should become a national priority. Sources of generous funding from all possible sources must be identified

Recognition and respect for the natural and beneficial functions of floodprone areas, including the coast, must be incorporated into and implemented through the programs of all federal, state, and local agencies. The value of these functions has been acknowledged officially and repeatedly as preventing serious harm to people, the environment, and the public good, and therefore worthy of protection, restoration, and enhancement.

5. Generate a renaissance in water resources governance.

A nationwide vision and policy for water resources and flood loss reduction is essential. This would include both a national floodplain management policy act and a national riparian and coastal areas policy act. Both should establish unequivocally the value to the nation of these resource areas and their natural functions, as well as their inherent hazardousness**. This policy needs to be supported with a comprehensive legislative package to be coordinated with and implemented through states, local governments, tribes, governors, and others.** We need to draw on the leaders and experts of the nation to craft and agree on outcomes and metrics for the future, including how we measure success and failure.

The federal government should not be the "doer" in managing our watersheds or water resources. **The focus for managing watersheds must be the states, where the authority for land use and development and public safety are reserved by our constitution.** There is an important federal role—that of being facilitators and providing technical assistance. There are good examples of such programs in the USACE now---Floodplain Management Services and Planning Assistance to States. Under the "Silver Jackets" program using FPMS the Corps has done some small pilots in Ohio that bring together federal agencies to provide technical assistance to a state and locally led effort for planning watershed solutions.

The federal agencies can also led a national effort in scenario based planning that would run a number or scenarios of national watershed policy to see the range of impacts that will occur to our economy, environment and social and cultural values. Using the variety of outcomes as a guide, Congress, the Administration and the States can better guide which policies will produce the most long term sustainable results for the nation's citizens. As part of that effort, establishing standards for national data sets is a critical federal role. While some of that data, such as critical streamgage data, should be federal responsibility, many times standards for the data and requiring open sharing of data will be sufficient.

To develop this vision, we must first address the central question of whether a national policy of water resources "development" is still relevant or whether a policy of water resources "sustainability" that balances human and ecosystem needs is a wiser approach. The revisions to the USACE Principle and Guidelines must address this need.

The National Water Assessment, last conducted in 1976, needs to be updated. Current data on streamflow, reservoirs, groundwater, and consumptive use is critical to crafting nationwide policy that is both far-seeing and grounded in factual science.

National programs and investment decisions should be adapted quickly to account for expected trends and impacts associated with the collision of intensified human development and climate change. Particular attention should be given to those parts of the nation where the geographically specific impacts on flood severity and frequency are likely to be most severe, and on the ecosystems of our riparian and coastal zones.

6. Promote personal and public responsibility

We need to require all properties, nationwide, to have actuarially based all-hazards insurance that has a strong loss-reduction (mitigation) component. This will foster individual understanding of risk and acceptance of personal responsibility. If an all-hazards insurance program cannot be developed, then flood insurance under the existing mechanisms should be made mandatory.

We need to provide a framework that will foster local responsibility for water-related resources, flood risk, and wise use of all watershed lands. An ethic of land and water stewardship must be developed. Incentives need to be institutionalized to ensure that communities that are doing a good job get benefits and those that do not manage their risks and resources wisely are not able to externalize the resulting losses and costs to the federal taxpayers. These incentives could include a sliding scale for the non-federal share of the cost of disaster relief and recovery; and preference for federal grants and loans awarded to

communities that take action to mitigate risks and protect or restore resources through comprehensive watershed management and planning. Through these means we can build local capacity for water resources management---and similar capacity at the state level.

Much of this issue comes down to 'who pays". As long as property owners and communities and states think the federal taxpayers will pay for unwise decisions that have dramatic adverse costs and consequences, they do not view this as the shared partnership it needs to be.

Sustainable communities are a vision of everyone. And that **sustainability must mean not only sustainable in terms of economics and environment, but socially and culturally, with full public safety from natural hazards as well as human induced hazards. Now and in the future that must be part and parcel of any sustainable community.**

Wise watershed management and planning will take the combined efforts of all levels of government, the private sector and individuals. ASFPM stands ready to assist Congress in its efforts to foster that vision.

Conclusion

Again referring to the vast consequences of the current Midwest floods---**it is critical that we have programs, policies and institutions that can adequately handle these events, efficiently use taxpayer money, and build a more sustainable future.** Nothing less than our nation's prosperity and economic security are at stake. The Congress and this Committee are at the center of this discussion with an opportunity to make policy changes that can have importance and relevance far into the future.

The ASFPM represents the federal government's state and local partners in the continuing quest to manage our watersheds wisely. Today, we once again stand at a crossroads--with an opportunity for all of us to work together to refine national water policy that will serve the nation for decades to come. Thank you for the opportunity to provide the wisdom and expertise of our members on these important issues. We look forward to working with you as we move toward these important common goals.

For more information, please contact Larry Larson, ASFPM Executive Director (608) 274-0123 (larry@floods.org),

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