



ASSOCIATION OF STATE FLOODPLAIN MANAGERS, INC.

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TESTIMONY

Association of State Floodplain Managers, Inc.

before the House Committee on Transportation and Infrastructure

Subcommittee on Water Resources and Environment and the
Subcommittee on Economic Development, Public Safety and Emergency Management

National Levee & Dam Safety Programs

Presented by:

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INTRODUCTION

The catastrophic events of 2005 affecting most of the Gulf Coast and the increasing flood damage elsewhere in the nation are reminders to the nation that we are susceptible to natural hazards – especially flooding – and that we must 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 viability are at stake. The Congress and these Subcommittees will be at the epicenter of this discussion, with an opportunity to make policy changes that can have importance and relevance far into the future.

The Association of State Floodplain Managers, Inc. (ASFPM), and its 26 Chapters represent over 10,000 state and local officials and other professionals who are engaged in all aspects of flood loss reduction and floodplain management and hazard mitigation, including management, mapping, engineering, planning, community development, hydrology, forecasting, emergency response, water resources projects, and insurance. Many of our members work with communities impacted by hurricanes Katrina, Rita, and Wilma or work with organizations that are assisting those communities in rebuilding. All ASFPM members are concerned with reducing our nation’s flood-related losses. Our state and local officials are the federal government’s partners in implementing programs and working to achieve effectiveness in meeting our shared objectives of reducing the suffering and costs associated with flooding. For more information on the Association, please visit <http://www.floods.org>.

ASFPM has been involved in numerous national policy dialogues with partner organizations in the past two years. These have included the Flood Risk Policy Summit involving 60 experts from many different groups such as homebuilders, realtors, lenders, environmental organizations, academia, and others. We co-sponsored this Summit with the National Association of Flood and Stormwater Management Agencies (NAFSMA), with strong support from the Corps of Engineers and FEMA. We also participated in the American Water Resources Association’s National Water Policy Dialogue and held discussions with the leadership of numerous agencies, the White House and Congressional staff, researchers, and others. The overriding consensus of these discussions was that the nation must change our top-down national flood risk model to place a heavy emphasis on states, who must work with regional flood management authorities and communities to implement effective flood risk management approaches. This is especially true of levee safety.

ASFPM appreciates the leadership of these Subcommittees and the full Committee in addressing the critical issues of levee and dam safety. Katrina was a wake up call on the consequences of ignoring levee safety and

there are other situations in the nation with levees in far worse shape than those in New Orleans, with large segments of the population at risk behind those levees. We look forward to working with you to develop a more effective approach to flood risk reduction associated with levees and dams.

Thank you for inviting us to offer our recommendations on levee and dam safety. The following testimony addresses:

- A. Changing how the nation manages flood risk—the federal/state/local partnership**
- B. The history of levees in the nation—how we got in this predicament**
- C. Consequences to a nation lacking a comprehensive approach to levee safety**
- D. The need for data showing where levees exist or the population at risk behind levees**
- E. Overarching suggestions for reducing future flood damages caused when levees fail**
- F. Measures to improve effectiveness of the policy nexus between USACE & FEMA programs**
- G. Providing technical assistance to communities and levee owners and sponsors**

A. Changing how the Nation Manages Flood Risk-The Federal/State/Local Partnership

An overarching and critical issue to all our efforts is the understanding that we need to change the nation's top-down model of flood risk management. One concept that is receiving more and more support in these discussions is to design the system to have states become the focal point for managing flood risk. The logic behind this is that in order to more effectively manage and reduce flood risk, we must rely on authorities that are reserved to the states under our Constitution, namely land use management, building codes, and community planning for development, mitigation, and resource protection.

A number of principles necessary for improved flood risk management have emerged, which this testimony will address:

- Flood protection provided by levees is a double-edged sword, providing significant protection, but also leading to severe flood impacts when levees fail or are overtopped. Wise flood risk management must include use of a menu of floodplain management options and cross integration of those options.
- The nation is urgently in need of data showing where levees exist, their condition, and the population and critical infrastructure (hospitals, police, water supply plants, etc.) at risk behind those levees.

- An effective levee safety program must be developed, building off the land use authorities of the states. Incentives and disincentives for states must be incorporated to foster action.
- Integrated watershed planning for water resources projects is essential for effective flood risk management. To accomplish this, states must be encouraged to play an integral role through a system of incentives using cost-shares and discounts.
- The Army Corps of Engineers can play a key role in fostering watershed and "bottom up" project development by providing states and local jurisdictions with technical assistance and consensus building assistance.

Why aren't states and locals doing more to manage flood risk? It's simple, Congress and the Administration has told them flooding is the responsibility of the federal government. Not in so many words, but current policy actions reinforce this concept. For the past 70 years, starting with the 1936 Flood Control Act through the 1968 National Flood Insurance Program Act and its reforms, along with various versions of the Disaster Relief Act, those national programs and policies have led state legislatures, governors and local decision makers to believe that flooding is the problem of the federal government. Over the decades this has resulted in many states and locals putting little or no resources or effort into reducing flood risk, believing the federal government would bail them out after flood events. There are few incentives or disincentives for states and locals to take action on their responsibility to reduce flood risk.

What is the appropriate model to devolve flood risk and floodplain management programs to the states? Almost none of the current federal flood risk programs are delegated to the states, and that includes water resource development programs, dam safety, the NFIP, and flood mitigation. Many of these programs have some state involvement or some contractual arrangement with states, but do not delegate authority or decision making to the states. Few governors or legislatures are interested in those non-delegated approaches, and they continue to view such efforts as federal programs, with federal disaster assistance as a backdrop removing the need for state or local priorities or leadership. Models of programs that actually delegate authority for decision making and funding to states include the Clean Water Act and the federal highway programs. Under these models, the state works with federal programs to reach agreement on the state-specific goals of the program, then designs the state program to achieve those goals. The program is not delegated to a state until appropriate state laws and capabilities are in place. The federal program then has oversight and auditing functions to ensure the goals are being met, and can and does withhold federal funds if the state does not uphold its end of the agreement.

What incentives might be most effective? ASFPM has long advocated that federal programs use a sliding cost share to reward positive state and local actions. A sliding cost share could apply to disaster assistance payments, which might keep the 75 federal/25 state/local as a base, but the federal share could increase as states undertake more and more actions that will reduce their risk to flooding and other natural hazards. This is cost effective for the federal government since it reduces federal disaster assistance from many programs. The same sliding cost share approach could apply to water resources and flood mitigation projects. Another approach would be that when states invest in important flood risk activities such as flood mapping, that amount of money could be “banked” toward the non-federal share of the next disaster. In this way, state legislators and governors can see the benefit of a “pay now or pay later” scenario, and in the meantime their citizens are safer, suffer fewer flood losses and trauma, and future disasters are reduced. As a start, the sliding cost share could be linked to the Community Rating System (CRS) used in the National Flood Insurance Program (NFIP). The CRS program has a list of 18 activities a state or community can undertake that go beyond national minimum standards that will all further flood loss reduction. Points are given for each activity, and the number of total points determines how much incentive is given for discounted rates. Under this system, the federal, state, and local governments would be integrating their actions to reduce losses, and we will be rewarding those states and communities who do more, instead of the current system that provides more federal money to those states and communities who do less to reduce flood risk.

Disincentives are also important. The PL 84-99 program of the Corps of Engineers provides federal money to rebuild and repair levees that are damaged in a flood event. This is a tremendous back stop for levee owners, who can gain the “benefits” of having a levee, such as tax proceeds, increased development, etc., but who can externalize the costs of failure to the federal taxpayer. This becomes especially problematic when levee owners ignore proper operation and maintenance (O&M) making failure an expected event. The first thing that must happen is for the Corps to ensure local sponsors and levee owners are meeting proper O&M standards, and if not, removing them from the program. Secondly, to encourage state participation and oversight of an effective levee safety program, when some certain number or percentage of levees in a state are out of compliance, all levees in a state would not be eligible for the PL 84-99 program.

B. The History of Levees in the Nation—How we got in this predicament

Levees have existed in this nation since early times. Those early levees were simply mounds of dirt thrown up by farmers or property owners to prevent frequent flooding of their property or crops. Most of the population lived near rivers or the coast, since waterways were our highways and the rivers were our source

of water for human and livestock consumption. The federal government got into the levee business in an organized way when Congress asked the Corps to become involved in the levees in Sacramento in 1917. The Flood Control Act of 1936 provided authority for the Corps of Engineers to be the lead agency on Flood Control projects in the nation. That authority has been used extensively for structural projects such as levees, dams, and channelization, which modify our natural waterway systems to accommodate human needs. While the Corps has authority to also perform non-structural projects such as elevation or relocation of at-risk buildings, the vast majority of projects have been structural. The evolution of responsibility for flooding and its consequences that has focused on federal structural projects has led states and communities to view flooding as a federal problem, not a state and local problem. It is important that all federal legislation on levees and disaster assistance implement a levee safety and flood mitigation approach and establish a shared responsibility for damages when a levee fails.

Thousands of miles of levees have been constructed by the Corps, most with a non-federal sponsor that provides cost sharing for construction and accepts responsibility for operation and maintenance. The location of those levees is known to the Corps, although many of them may not be in a geo-spatial database. Many other levees have been constructed by communities or private individuals or levee groups. We know where some of these are, especially those who apply for and participate in the Corps PL 84-99 rehabilitation program. Many private levees were built to protect farmland from frequent flooding in order to improve the economics of cropping the land. Over time, development of homes or other building has taken place in that area which would be inundated if those levees overtop or fail. Many of the property owners behind those levees may not even be aware the levee "protecting" them is poor and likely to fail.

Levees have been built to various heights to contain storms of various frequencies. In the early years, levees may have been built to contain either the probable maximum flood, or the 500, or 200-year flood, etc. In the past few decades most levees have been "dumbed down" to only contain the 1% chance flood (100 year flood). That is an unintended consequence of combining the Corps' National Economic Development (NED) policies with FEMA's policy for the flood insurance where areas protected by the 100-year flood are not required to carry flood insurance or be subject to any land use regulations for protection from flooding. Mapping those residual risk areas and requiring flood insurance in them is essential. Levee standards for protection on urbanized areas and critical infrastructure like hospitals, emergency operation centers, and shelters must be protected to at least the 0.2% (500-year) flood event or in category 5 storm surge coastal areas.

C. Consequences to a Nation Lacking a Comprehensive Approach to Levee Safety

We do not know the population or amount of structures at risk behind levees that would suffer damages or loss of life when those levees overtop or fail. We have no data on the population behind most of the levees in the nation, let alone how many of those people would be able to evacuate in the event that levee or floodwall overtops or fails during a storm event. Damage data on the cost of the structures or the infrastructure in those levee or floodwall inundation areas is needed in order to assess the exposure of the disaster programs for both property damage and infrastructure.

What is the risk associated with each levee? *Risk is determined by multiplying the probability of failure of the levee or floodwall times the consequences when that levee fails.* Which of our levees is high risk, moderate risk or low risk? We need all these answers in order to proceed wisely.

Based on the data that a well designed levee inventory would produce, Congress can ask the National Levee Safety Committee to design and propose a levee safety program that would use a federal/state partnership to prioritize the nation's efforts to protect people and property. Without that data, the size of the problem and costs of future events like Katrina-Rita are not known. To start fixing the problem before we know the magnitude or cost does not seem to be an efficient use of taxpayer dollars.

D. The Need for Data Showing Where Levees Exist and the Population at Risk Behind Levees

Levees can be grouped in 4 categories:

1. Federally built and operated
2. Federally built and locally maintained
3. Locally built and locally maintained
4. Privately built and hopefully maintained

Information on Corp of Engineers constructed levees (category 1) is now being gathered in a geo-spatial database that can provide cumulative data such as miles of levee, condition of the levees, etc. This data did not previously exist, and this data for the other classes of levees is more problematic, with data on even the location of private levees being almost non-existent.

Data on the adequacy of the levee for (1) hydraulic capability (height to contain a certain level of storm) and (2) structural stability (is it geo-technically sound and structurally stable) is similar to the above. Data on the population at risk when the levee overtops or floods or the cost of the structures and infrastructure likely to be damaged is also not known to any reasonable extent. The concern is that, without this data, Congress, the agencies, the states and communities, and the public have no idea of the magnitude of the problem.

ASFPM surveyed the states to determine if states had an inventory of levees in their state. Only two states have a geospatial data base of their levees, and less than a dozen have even a listing of levees within their states. Other data indicates less than half of the states have implemented their authority to regulate levee design, construction, or maintenance of levees.

E. Overarching Suggestions for Reducing Future Flood Damages Caused when Levees Fail- Key Provisions of any National Levee Inventory and Safety Program

Some basic principles should be included in addressing the levee problem in the nation. Those include:

1. Congress should focus first on an inventory of levees so that we have enough data to determine the magnitude and potential solutions to the problem. The federal government (Corps of Engineers as lead) should develop the initial levee inventory in cooperation with the states, which must collaborate with local and regional entities in their state.
2. An initial bill could complete the inventory, establish a National Levee Safety Committee of federal and state agencies representatives, and otherwise direct the Corps of Engineers to perform assessments on federally owned levees. Subsequent legislation could then design a levee safety program based on the data and recommendations of the National Levee Safety Committee. We recommend you consider this approach.
3. Any long-term levee program must use the states as a focal point. States are the only entities that have the authority to regulate the design, construction, operation, and maintenance of levees. The federal government can encourage those things and offer incentives, but cannot mandate them. A state-administered national levee safety program is needed to protect the federal interest in public health, safety, and fiscal responsibility, as well as to protect public safety and costs related to all levees not in the federal system. Such a program must be fully integrated with state and local programs of flood risk management, especially floodplain management and dam safety, and should

use a state delegation model similar to that used to implement the Clean Water Act, rather than function as an independent program like the existing National Dam Safety Program. State capability in this area is critical and can be developed most effectively through federal legislation that provides incentives and disincentives for states to accept delegation for the development and implementation of effective state levee safety programs.

4. The Association of Dam Safety Officials estimates that the number of high-hazard dams has increased from 9,000 to almost 12,000 in the last 10 years---not because new dams were built, but because new development was allowed in the failure zones below dams. This illustrates the need for States to use their land use authority to oversee levee safety, or we will continue to create the same potential consequences.
5. The current National Dam Safety Program is doing some positive things in training, research, and the inventory; we urge continued funding of that program to provide for those needs.
6. Incentives must be built into the program to encourage states to undertake levee safety programs in conjunction with their regional and local governments. Monies states spend on effective levee safety programs will result in reduced federal tax spending for disaster relief. Thus, incentives could consider that some significant percentage of the appropriate state expenses could be banked against the non-federal share of future disaster costs in that state.
7. Federal and state policy groups and Boards, acting through the National Levee Safety Committee, must be charged with recommending appropriate levee standards for various levees in the nation. Those standards must be improved to require 500-year levees for protecting urban areas and critical infrastructure. This improves protection from the current 1% (100-year) standard generally used, which is inadequate for protecting highly urbanized areas or for critical infrastructure like hospitals, drinking water, fire stations, etc. Congress and the Administration should adopt a policy that the 500-year level of protection for levee design is the minimal standard for purposes of flood insurance, water resources projects, and other federal investment.
8. The local sponsor must demonstrate the financial and staffing capability to provide operation and maintenance for the life of the structure—before the project is approved, constructed, re-constructed, or recognized as providing a certain level of flood protection.

9. The federal government should not be performing detailed engineering analysis of levees or designing engineering remedies for non-federal levees. That is the function of levee owners and sponsors.
10. The levee inventory and any follow up assessment and levee safety program must be clearly coordinated with related mitigation programs of the Corps of Engineers and other federal agencies such as FEMA, NRCS, Bureau of Reclamation, etc., and especially with the flood mapping programs of FEMA. Additionally, this program must be done in collaboration with state programs, which in turn must involve regional and local related programs.
11. Guidance must be developed that establishes criteria and definitions for high, moderate, and low risk levees in order to set priorities for the assessment and future mitigation actions.
12. ASFPM finds that future flood losses can be reduced if levees are never used to protect undeveloped land. Levees may be a viable last resort option for mitigating damages to existing urbanized areas if properly designed, constructed, operated, and maintained, but only if proper warning and evacuation procedures can assure protection of lives for those living at risk behind those levees.

F. Measures to Improve Effectiveness of the Policy Nexus between Corps of Engineers and FEMA programs

There are a number of places where policies of the Corps and FEMA intersect. As explained above in the discussion of levee risk, sometimes those policy nexuses result in unintended negative consequences. In addition to those mentioned above, the following suggestions come from the Flood Risk Policy Summit this past December involving many experts representing various interests:

- **Public safety must become a default standard in determining the design of and priorities for flood mitigation projects above and beyond the benefit/cost analysis and any other objectives in the NED or Principles and Guidelines.** For example, an NED analysis might suggest that the optimal project is a 100-year structure. We know that there is better than a 1 in 4 chance, that over 30 years, this project design will be met or exceeded. If exceeded or if it fails, in the case of a levee, it can occur with little warning, destroying property and trapping people. Injury and loss of life potentials are high; people's lives are forever altered. This scenario, while hauntingly reminiscent of New Orleans, will be played out in other communities. We cannot in good conscious be designing and building flood mitigation projects with federal tax dollars that result in (avoidable) loss of life.

- **Levees must be designed to protect urban areas and critical infrastructure to the 500-year flood in order to gain federal support or investment.**
- **Federal monies should not place people and structures at risk, nor contribute to the increased flood risk of other structures and people.** Many agencies will spend billions of taxpayer's dollars in our efforts to rebuild the Gulf coast. This includes the Corps of Engineers, FEMA, HUD, EDA, EPA, and DOT. It is imperative those agencies do not increase flood risk, or cause flood risk to be transferred to others through their actions. Federal Executive Order #11988 directs all federal agencies to analyze their actions to avoid increasing flood risk as they assist to build, finance, or provide technical assistance. We urge these Subcommittees to condition each program authorization on compliance with this Executive Order.
- **Operation and Maintenance of flood control structures must be ensured through strong federal and state oversight.** No federal assistance for flood control structures should be provided without upfront assurance of financial capability for ongoing O&M of the structure.
- **The O&M requirements of the PL 84-99 program must be tied to the criteria for certifying levees under FEMA's flood mapping program.**
- **Identify residual flood risk structures and lands that will be flooded when levees fail or overtop and require flood insurance for structures in those areas.**
- **Emergency action plans (EAPs) that address flood warning and evacuation should be required for all residual risk areas behind levees in order to protect lives and minimize property damage. These plans, and the periodic exercise of them, should be a requirement of any federal or state program that recognizes the levee as providing protection.**
- **Integrate planning and program requirements for flood mitigation and water resource planning and projects between the two agencies, using holistic, watershed approaches.**
- **Require a level of protection commensurate with the risk for the Corps and FEMA programs that map and manage flood risk, especially for flood control structures where the consequence of failure is catastrophic.**
- **Flood control structures should not be built with federal dollars in communities which do not join the National Flood Insurance Program, nor should those communities be eligible for federal disaster assistance for damage to public infrastructure.**
- **Levees should be considered an option of last resort and used only to protect existing communities.** Levees should not be used to protect undeveloped land with the speculation new development will be placed at risk behind those levees.

G. Providing technical assistance to communities and levee owners and sponsors

Communities and local levee owners often need technical assistance (not detailed engineering work) when levees are being mapped or found to be in non-compliance with O&M standards. At these times, those local communities or sponsors need technical assistance from either FEMA or the Corps of Engineers to explore their options and determine how to go about assessing their alternatives. Assistance from the Corps is a logical alternative, and appropriate authority seems to already exist, albeit very poorly funded.

Two relatively small programs of the Corps of Engineers Civil Works Program have nationwide benefits – these are the Floodplain Management Services Program (FPMS) and Planning Assistance to States Program (PAS). The 2007 budget request for these programs is \$5.6 million and \$4.5 million respectively. The FPMS and PAS programs provide support and the ability of Corps staff to travel to and assist those communities. However, proposed funding levels will not even meet current needs expressed by states and communities for technical assistance from the Corps. Sadly, they fall far short of the authorized level for these programs and will not allow the Corps to apply them in appropriate and innovative ways to assist with levee problems throughout the nation.

ASFPM urges these Subcommittees to strongly support the following:

- ▶▶ **ASFPM urges the Committees to support the fully authorized funding of the FPMS program to \$15 million in FY 08, and to consider a substantial increase in the annual authorization ceiling for this program to at least \$50 million in the upcoming WRDA.**
- ▶▶ **ASFPM urges the Committees to direct the Corps to explore how it can utilize the FPMS program to assist communities and states to evaluate existing levee certification and maintenance options to safely provide protection to a specific flood level. Additionally, the Corps should be encouraged to work closely with FEMA to utilize this information to help develop more accurate flood maps for the nation that reflect the location and safety level of existing levees.**
- ▶▶ **ASFPM urges the Committee to support full funding of PAS at its authorized level of \$10 million and also to consider an increase in this program's annual authorization ceiling to at least \$30 million.**

CONCLUSION

The ASFPM has a mission to reduce the costs of flood damages in the nation, which prior to the 2004 and 2005 hurricane seasons exceeded \$6 billion/year. Today, we once again stand at a crossroads – in the aftermath of a catastrophic flood disaster with an opportunity to refine our nation’s policy for managing flood hazards. Thank you for the opportunity to provide our thoughts on these important issues. The ASFPM and its members look forward to working with you as we move towards a common goal of reducing flood losses. ASFPM has a white paper on the national policy challenges of levees. It can be viewed at:

http://www.floods.org/PDF/ASFPM_Levee_Policy_Challenges_White_Paper.pdf

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