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TESTIMONY

Creating a Climate Resilient America: Reducing Risks and Costs

Before the

House Select Committee on the Climate Crisis

By

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Introduction

The Association of State Floodplain Managers (ASFPM) appreciates the opportunity to share our views on adapting to climate change, and being a more resilient nation in the face of this new future condition.

The ASFPM and its 37 Chapters represent over 19,000 state and local officials as well as other professionals engaged in all aspects of floodplain management and flood hazard mitigation including management of local floodplain ordinances, flood risk mapping, engineering, planning, community development, hydrology, forecasting, emergency response, water resources development and flood insurance. All ASFPM members are concerned with reducing our nation's flood-related losses. For more information on the Association, its 14 policy committees and 37 State Chapters, our website is: www.floods.org.

Our Nation's Flood Risk is Increasing Dramatically

Floods are the nation's most frequent and costliest hazard. Every year the costs to taxpayers continue to increase. ASFPM estimates that in the 1990's average annual flood losses were about $5.6 billion. This increased to an average annual flood loss of $10 billion in the 2000s and in this decade will likely double again to around $20 billion per year.

Climate change is manifesting itself in several ways as it relates to flood risk. But the two primary ways are sea level rise and more intense storms. For the former, the impact of rising sea levels depends on the pace and magnitude of the change – two factors about which there is great uncertainty. For instance, a 2016 study updated the estimates on the amount of ice melting in Antarctica concluded that the increase in sea level may be twice the level that was previously estimated. And, an additional source of uncertainty is the willingness and ability of the world's nations to change the trajectory of climate change. The success of agreements like the Paris Climate Conference and future agreements hold the potential to mitigate some of the projected impacts of climate change.

In inland areas, all across the country, local officials are observing more intense rainfall events. And this is showing up in the data too. Warming conditions mean more water vapor in the air. When rain-triggering conditions are favorable more saturated air leads to heavier precipitation. One public works official from Arkansas recently noted "It was easier when we could plan for and put in stormwater infrastructure that can handle 1-2 inches of rain each hour, but now we are seeing events where you might get four inches of rain in a half hour, I am not sure how we are going to handle that." Recent research by Climate Central reinforces this observation showing an upward trend with more days with 1", 2" or 3" or even more rainfall events.

To meet today's challenges planning for future flooding conditions, while there are promising approaches, overall we are already behind as a nation. ASFPM would like to discuss several areas where improvement is needed. We will address:

- Data, Analysis and Information
- Federal Agency Programs and Policies
- Adaptation and Hazard Mitigation

Data, Analysis and Information

If we do not have robust systems in place to provide updated and anticipated hydrologic data, track disaster losses, analyze events, and provide sufficient resources going to research and development, we will simply never get ahead of new development in flood risk areas.

One trend that we are seeing all over the country is that rain events are getting more intense. To compound matters, our nation tends to use outdated hydrology which only further underestimates the risk. The National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) has been updating precipitation frequency estimates for various parts of the United States and affiliated territories. Updated precipitation frequency estimates, accompanied by additional relevant information, are published as NOAA Atlas 14 and are available for download from the Precipitation Frequency Data Server (PFDS). It is these data that are used in everything from hydrologic modeling for producing flood maps to thousands of design decisions every day for development and redevelopment in our communities throughout the nation. However, NOAA has neither the budget nor mandate to provide this in a timely way. In fact, a note in NOAA's most recent progress report which was through March 2019 indicated that "No funding is available to extend NOAA Atlas 14 coverage to the remaining five northwestern states: ID, MT, OR, WA, WY in Volume 12.[1]"

Consider the new Atlas 14 data for Texas that came out last fall. That data basically determined that the 100-year rainfall amounts for Houston is now about a 25-year event. In Austin, the previous 100-year rainfall amount is now about a 50-year event. As one of ASFPM's Texas members put it, "pretty much all of the flood maps in the state of Texas are now outdated." And this particular Atlas 14 update was not even looking at the future; rather it is updating 40-50 year old data that was developed in the 1960s and 1970s. ASFPM is supportive of current NOAA efforts to test the feasibility of incorporating future climate projections into precipitation frequency analysis examining the inclusion of such data into future Atlas 14 updates.

[1] Hydrometeorological Design Studies Center Progress Report for Period OCTOBER 2018 to MARCH 2019, page 4.

- **NOAA should be given the mandate and full budget to update our nation's rainfall frequency information at least every 10 years and this update must include future climate projections into precipitation frequency analysis.**

Stream and tidal gages are the stethoscopes of our hydrologic network. Ask any local official about a critical data need and most will say that there needs to be more streamgages. Yet funding for even those deemed critical by the federal government is in short supply. For example, the Federal Priority Streamgages (FPS) Network (previously known as the National Streamflow Information Program) was conceived in 1999 to be a core, federally funded network. The original network design included 4,300 then active, previously discontinued, or proposed new gages that were strategically positioned across the country to address long-term Federal information needs (such as supporting NWS flood forecasts, or interstate and international compacts and decrees). At present (2018), more than 4,700 locations meet the criteria for inclusion in the FPS network, but only about 3,600 FPS are active because of funding limitations. These active FPS are supported through a combination of Federal and partner funding—less than one-quarter are fully funded by the United States Geologic Survey.

- **Congress should fully fund our critical national stream gauge and tidal gauge networks.**

Another critical piece of data that influences thousands of development decisions every day as it relates to flood resilience are FEMA's flood maps. Since 2012, FEMA has been mandated to not only provide flood maps for the entire nation[2] but also provide future conditions flood risk information. Why future conditions? A 2013 study prepared for FEMA estimated that the 100-year floodplain area would increase by 45% nationally by the end of this century. Yet, little progress has been made on either since that time. In the continental United States, we have 3.5 million miles of streams rivers and coastlines. Yet, FEMA has only mapped floodplains on 1.2 million miles of them. While the FEMA Technical Mapping Advisory Council (TMAC), a congressionally-authorized advisory committee is helping FEMA oversee the nation's flood mapping program, completed the Future Conditions Risk Assessment and Modeling report in December 2015, it appears little has been done and we have yet to have these data appear on FEMA flood maps or in the data provided to communities. ASFPM has previously prepared a programmatic cost estimate for implementing FEMA's National Flood Mapping Program which includes both of the aforementioned mandates, concluding it will cost between $4.5 billion and $7.5 billion to "get the job done" in initially mapping the nation. We note and appreciate Chairwoman Waters' and Castor's efforts to highlight this issue by circulating and signing a dear colleague letter in March 2016 calling for an infusion of funding over five years to complete the job of mapping the nation.

[2] Statute requires FEMA to provide 100 and 500 year flood data in developed areas and areas that have the potential for future development. Since the owner of a tract of land has the legal right to develop, this mandate can be construed as needing data for the entire nation.

- **Congress should provide adequate funding to finish the job of providing flood mapping for the nation, to include future conditions mapping, in a short (5 to 10-year) timeframe.**

Today's flood maps are based on models that incorporate hydrologic information and topographic information. Good progress has been made on high quality topographic information for the nation through the United States Geological Survey (USGS) 3D Elevation Program (3DEP). These high quality topographic data inform critical decisions that are made across the nation every day ranging from immediate safety of life, property and long—term planning for infrastructure projects. Currently at 60% complete, the goal of 3DEP is to complete the acquisition of nationwide high resolution elevation data by 2023.

- **Congress should ensure that the USGS 3DEP program is fully funded to provide nationwide high quality topographic information for the entire nation.**

Even if good flood data is developed, there are some policy hurdles preventing it from being publically available. For example, the US Army Corps of Engineers (Corps) new policy on Emergency Action Plans (EAPs) requires several types of flood inundation mapping (EC 1110-2-6074). This policy standardizes inundation mapping and establishes inundation mapping requirements for dams and levees. In theory, having inundation mapping available to the public can help avoid debacles like those we witnessed around Barker and Addicks Reservoirs post-Harvey when thousands of homes in inundation areas of those structures were impacted. Had local land use planners, property owners and others been aware of these risks, steps could have been taken to reduce that risk. However, the new EAP policy includes the following statement: *EAP maps are considered sensitive data and must be marked "For Official Use Only" according to AR 380-5 and DoDM 5200.01.* In other words, inundation maps associated with EAPs are not publically available. Why would we be withholding this vital information on flood risk from property buyers and owners?

The 2016 TMAC report National Flood Mapping Program Review, identified a legacy DHS policy through its Security Classification Guide for the Protection of Critical Infrastructure and Key Resources, which listed dam failure inundation maps as "For Official Use Only." However, this policy conflicts the National Flood Mapping Program requirements that such areas be provided on Flood Insurance Rate Maps and on publically-available databases such as NLD and NID. As noted in the report, a Virginia law passed in 2008 essentially requires that all inundation mapping developed for state-regulated dams be made available to communities and the public. This has now been implemented for a decade without issues and state officials there believe in supporting wider public availability of these data. More recently, when speaking to agency officials, there has been a mistaken belief that this issue had been dealt with. It is clear to ASFPM that it has not and the unwillingness of agencies to act on it demands congressional intervention.

- **Congress should mandate that any flood risk data, including all dam/levee inundation mapping, developed by the federal government and/or associated with any federal program be made publically available.**

As a nation, we neither have the system to effectively track disaster losses nor analyze them comprehensively in order to learn lessons that we can apply to future resiliency efforts.

Despite the frequency and expenses of natural disasters, there exists no system in either the public or private sector for consistently compiling information about their economic impacts. Any data collection effort should focus on the losses as a result of natural disasters, or negative economic impacts. The loss from a disaster is a broader concept than its cost, a term that conventionally refers only to the losses that are reimbursed by insurance companies and governments through disaster relief. A National Academies of Sciences report on this topic made several good recommendations that ASFPM supports including recommendations for also tracking disaster payouts incurred by federal agencies to improve tracking federal disaster spending – not only to individuals and businesses but also to communities and even spending on repairing federal facilities such as levees or Dept of Defense facilities.

- **One agency of the federal government should be made responsible for compiling a comprehensive database containing the losses of natural disasters and disaster spending[3].**

One vital, yet inexpensive, doable step is to adopt the culture of learning from mistakes that we show in other contexts. Consider aircraft accidents. After each crash, we don't gather around the crash site, mourn, confine our blame to the hapless pilots, and solemnly promise to "rebuild the aircraft just as before." The investigation is handled by a standing, independent federal agency, the National Transportation Safety Board (NTSB). Investigators immediately report to the crash scene. They analyze flight recorders and other data to understand the actions of pilots and crew in response to the emergency conditions, but they do not stop there. They go on to consider possible design flaws in the air frame, errors in equipment manufacture, irregularities or shortcomings in airline inspection and maintenance, air traffic control procedures, the prevailing weather—in short, all aspects of aviation that might have any bearing on the incident. Moreover—and this is not so generally appreciated—the NTSB coordinates and leads the team, but the team includes experts from all the stakeholders—the airframe manufacturer, the airline, the FAA, etc. Finally, though NTSB findings and recommendations do not carry the force of law, stakeholders ignore them at their peril. The result? A safety record that has

[3] The National Academies of Science Report identifies the Bureau of Economic Analysis (BEA) within the U.S. Department of Commerce, in consultation with FEMA and other federal agencies involved in natural disaster preparedness, response, and mitigation activities, as best suited for this purpose.

steadily improved over the years with very few aircraft deaths resulting. Something similar is needed with respect to analysis and evaluation of the entire range of all major natural disasters[4].

- **Congress and the administration ought to work together to explore the establishment of a standing National Disaster Reduction Board (NDRB), to analyze and report on disasters. Each report would provide opportunities and incentives for communities and businesses, and state and federal governments, as well as policy makers like Congress to learn from mistakes and make ongoing adjustments to decisions and policies.**

For the past decade, a novel approach to data management, tool development and data dissemination has been piloted at NOAA through the Digital Coast Partnership. Developed and maintained by NOAA, hundreds of organizations and federal, state, and local agencies have contributed to this curated collection of high-quality authoritative data and tools focused on coastal and ocean issues. "More than Just Data" is the slogan of the Digital Coast because data alone is not enough, especially when users of that data do not know how it can be used, or what steps to take to get information they need. Digital Coast tools and training help users turn data into powerful information that continues to increase the coastal knowledge of our nation.

For example, one of the most popular tools being used by practitioners today on the Digital Coast website is the Sea Level Rise viewer. ASFPM was a founding member of the partnership and strongly believes that to better understand the future flooding risk in coastal areas and manage that risk, programs like Digital Coast will be vital.

- **Congress should pass the Digital Coast Act.**

The House bill (HR 2189) was reported favorably out of committee in September, last week the Senate bill was reported out of committee.

Federal Agency / Programs and Policies

While there are numerous programs and federal agencies that address the threat of flooding and floodplain management, most do not take into consideration the future flood condition that will be exacerbated by climate change.

In 1975, Congress established the Federal Interagency Floodplain Management Task Force (FIFMTF). Its purpose was to carry out the responsibility of the President to prepare for the Congress proposals necessary for a Unified National Program for Floodplain Management. For more than 40 years, some

[4] For a more in-depth discussion on this concept (and from where this text was excerpted), please see the June 2006 essay by Gina Eosco and Bill Hooke in the Bulletin of the American Meteorological Society.

form of an interagency group has worked to better understand the appropriate roles of local, state and federal governments in reducing flood losses, the interactions between human actions and natural systems in the floodplain environment and to make recommendations to reduce the loss of life and property caused by floods. Also, the task force is useful to identify and address policy or programmatic conflicts among federal agencies that may be resulting in poor floodplain management decisions. The main report of the FIFMTF, a Unified National Program for Floodplain Management was first written in 1979, then updated in 1986 and last updated in 1995. Unfortunately, the report hasn't been updated in almost 25 years while the threats resulting from flooding have exploded. Not only is research showing significant social impacts of flooding, new flooding types like urban flooding are emerging.

In 2012, ASFPM analyzed more than 130 federal programs that had some impact on the use and development of floodplains. At the time, our evaluation also looked at climate adaptation as it pertained to these programs which, for most was either non-existent or just beginning to be explored.

Administration/Congress

- **Update the Unified National Program for Flood risk management to define the appropriate role of local, state, tribal and federal governments in managing flood risk including future impacts of climate change and the emerging threat of urban flooding.**
- **Convene a task force of national economic experts to review and make recommendations for possible changes regarding economic planning and evaluation for flood-related projects; including application of discount rates, treatment of residual risks, land valuation, lost opportunity costs, valuation of green infrastructure and ecosystem services and functions, future conditions and other considerations regarding structural and non-structural approaches in evaluating flood risk reduction and flood hazard mitigation projects.**
- **Codify Executive Order 13653-- the Federal Government, as well stakeholders, must manage climate change risks with deliberate preparation, cooperation, and coordination in order to effectively improve climate preparedness and resilience.**
- **Codify an effective federal flood standard when using fed funds to build/rebuild that would address ordinary and critical facilities (e.g. hospitals, water supply, etc) and include consideration of future conditions and a requirement for agencies to consider natural infrastructure alternatives.**

Interagency Coordination

- **Adequately resource the Federal Interagency Floodplain Management Task Force (FIFM-TF) to better equip it to undertake its role in interagency coordination.**

- **Direct the Federal Interagency Floodplain Management Task Force to determine how the federal agencies can collaborate on data, programs and funding to reduce flood risk and flooding costs for taxpayers at all levels.**
- **Ensure that projects conducted or funded by federal agencies are reflected on FEMA floodplain maps in a timely manner.**

Department of Defense / US Army Corps of Engineers

- **Investigate the resiliency based standards passed in the McCain Defense act last year that in essence require DOD facilities to be looking to higher standards and future climate standards. Determine to what extent DOD has developed rules, is implementing, and is complying with the Congressional mandate and intent.**
- **Require the development and transition federal planning principles to a National Economic Resilience and Sustainability standard instead of the current National Economic Development (NED) standard to explicitly incorporate the values of multiple ecosystem services, including the non-market public values provided by the nation's floodplains, and future climate conditions.**
- **Require a minimum design standard of the 500-year flood or PMF level protection for levees protecting urban areas.**
- **Cease federal taxpayer funding of beach nourishment if benefits are primarily for recreation. Those who benefit should pay for this temporary benefit. The entire beach nourishment policy should be revisited in light of a changing climate and sea level rise. In particular, the cost share for these projects should reduce federal taxpayer costs share to no more than 50%.**

Federal Highway Administration

- **Improve sharing post disaster highway data and best practices to improve resilient reconstruction of non-federal/state highways. Develop guidelines to assist local highway departments to help them in reconstruction following flooding.**

Housing and Urban Development

- **Permanently authorize the CDBG-DR program to avoid HUD having to write rules after every disaster supplemental to streamline the rebuilding process.**
- **FEMA Public Assistance and HUD CDBG and other disaster funding should require net zero carbon emissions for project eligibility.**

Federal Emergency Management Agency

- **Under NFIP, consider extending the mandatory purchase requirement for flood insurance to all areas. At a minimum, it should be expanded to other known flood hazard areas such as residual risk areas, urban flooding areas, .2% chance (500-year) floodplain, etc.**
- **Under NFIP, flood maps must include future flood conditions for NFIP regulation as directed by Congress. Added future flood layers for 2040, 2060 and 2100 projections can be in the digital data for community use for planning or risk commination or other community needs.**
- **Emphasize the most basic but most important resilience strategy for the NIFP: "avoidance". We should not invest any mitigation money in a community unless they first adopt higher standards that prevent adding any structures or assets within high risk areas. Simply put, we have to stop the vulnerabilities from increasing first and only then start chipping away from what we can then call legacy vulnerabilities.**
- **Require all Class 7 and better in the NFIP's Community Rating System communities to consider and plan for anticipated climate change in their floodplain management plans. Class 1 communities should prepare maps and regulations using best available data to address the impacts of changing climate for the next 100 years.**
- **Establish a national flood risk disclosure law to all potential buyers know the past history and future flood risk potential of all properties.**
- **Require utility companies (eligible for PA) to analyze the full range of mitigation options and account for current and future flood risk in planning, design, construction and reconstruction of facilities. Future federal assistance should be prohibited unless such requirements have been adequately incorporated.**

Adaptation and Hazard Mitigation

Community and individual adaptation to climate change will not be quick nor easy. Any community facing flood risk often is also facing a multi-decadal timeframe to reduce that risk enough that they will be resilient in the face of current and future flood threats. Property owners facing increased sea level rise have a very real prospect of their property value plummeting to nothing – for the single asset that, for most Americans, is their most valuable[5]. To say we have an adaptation problem in this country is vastly understating the issue and delay will only add hundreds of billions of dollars in estimated flood related damages that will already likely occur due to climate change.

[5] An insightful 2016 article by Freddie Mac's Economic and Housing Research Group (Life's a Beach), discusses potential impacts of climate change that may be unavoidable when it comes to flooding and concludes that they will likely be greater in total impact than the housing crisis and Great Recession.

In some communities, coastal in particular, it is not going to be feasible to stay along the coast given the risks from sea level rise and resources available to adapt. We will need to take proactive strategies and provide technical assistance to help communities make more informed decisions on when to rebuild more smartly vs when it would be time to start phasing in relocation. Developing innovative assistance programs like the Digital Coast to support the evaluation process, decision making and potential infrastructure/community moves would be important to advance progress. Below are some recommendations:

- **Develop national hazard resilience standards for the location, design, construction, and reconstruction of all public infrastructure and buildings that consider: alternative locations, future conditions, green or nature based options, mitigation and a No Adverse Impact approach. These standards should then become a condition of federal funding.**
- **Minimize use of federal taxpayer dollars to rebuild in areas we know have greatly increasing flood risk.**
- **Incentivize mitigation through changes to the tax code like a mitigation tax credit.**

Flood mitigation actions like buyouts and relocations in particular, will be effective in adapting to climate change, especially in communities where the flood hazard area becomes too difficult for continued occupation. However, our current programs for buyouts and relocations have several issues which make them too time consuming and complex to be done in the manner that they need to be implemented. Congress should examine the buyout and relocation programs that are offered by multiple agencies (FEMA, HUD, USACE, NRCS) to ensure that they are streamlined to the maximum extent possible and also support area wide or community wide buyouts/relocations. In fact, largely due to the complexity of such a project and the inability of federal programs to work together, we rarely see these options used on a large scale. An exception to this is the community relocation project of Newtok, Alaska where both FEMA Hazard Mitigation Grant Program and Pre-Disaster Mitigation grant funds are being used, as well support from the Bureau of Indian Affairs and the U.S. military through the innovative DoD Innovative Readiness Training (IRT) program.

- **Place priority on buyouts and relocation as a way to adapt to climate change.**
- **Ensure buyout programs/projects pair buyout assistance with the development of affordable housing in less flood-vulnerable areas.**
- **Fund research on evidence based buyout practices and dissemination of the results to practitioners. Require the FIFM-TF or other task force to examine the hurdles to community wide or neighborhood buyouts / relocations, with a focus on federal programs working together.**
- **Explore a more widespread usage of the DoD Innovative Readiness Training Program for flood mitigation projects, especially community/neighborhood relocations.**

- **Permanently authorize the Community Development Block Grant – Disaster Recovery program.**

Congress needs to address the lack of buyout program for flood-prone land in rural areas. Such areas are often those places next to be developed and it would be significantly less costly to acquire either permanent easements or the properties outright then to do so after development occurs. In many areas of the country more floodplain land is needed to safely accommodate flood water through leveed stretches of river. While urban buyouts will improve public safety and reduce property damage, portions of floodplain that are currently protected from flooding by levees must be utilized to convey floodwaters away from towns and critical infrastructure. At the moment, no comprehensive program for land acquisition to improve flood management in rural areas exists. Agencies like the USDA, the Army Corps, and FEMA have various limitations and restrictions on acquisition or easements that make land acquisition a primary barrier to floodplain reconnection projects.

One example would be to improve the USDA Emergency Watershed Protection-Floodplain Easement Program (EWPP-FEP). Floodplain easements allow for restoration of natural and beneficial functions of floodplains on land that has been damaged by flooding and allows for floodplains to be utilized to safely convey flood water on undeveloped land. However, this emergency funded program is only activated when infrastructure damages reach a critical threshold to automatically trigger a Stafford Act Federal Emergency Declaration, or if Congress declares easement funding to be available through an emergency appropriation. Unfortunately, both avenues are difficult to achieve. First, the critical infrastructure damage thresholds are almost impossible to reach in many rural counties. Second, if flood damage is localized it can be hard to garnish the requisite national attention needed for an emergency appropriation bill. This can leave rural landowners with unfarmable, flood-prone land following a flood disaster.

- **The EWPP-FEP program should be reformed to allow for the release of funding based on more locally based flood damage thresholds or set up as a non-disaster easement program.**

While buyouts and relocations are good long-term solutions, there must also be options available in the short to medium term. One approach in the short and medium term timeframe is to use the latest floodproofing technologies. There is an incredible amount of innovation occurring right now as new technologies are coming online to help solve flooding problems. However, are these technologies as good as promised? For buyers, one way to achieve some certainty is to ensure that the product has met the ANSI 2510 standard. ASFPM, in partnership with FM Approvals, assisted with the creation of the 2510 standard over a decade ago. The standard applies to floodproofing technologies such as perimeter barriers, opening barriers, flood mitigation pumps, backflow valves, and now sealants and glazing systems. ASFPM, in partnership with FM Approvals and the Corps oversees the National Flood

Barrier Testing and Certification program where products that have been tested and certified to the 2510 standard can be found on the website: https://nationalfloodbarrier.org/. ASFPM is encouraging communities to adopt the 2510 standard and also incorporate it into the nation's building codes.

- **Require federal agencies who purchase and use flood fighting products and federal grant programs that authorize the use of such products ensure such products are 2510 certified and are used in floods that meet that certification.**

Social and Housing Considerations

More and more, there is a nexus of issues surrounding disaster losses, climate change, social issues (i.e., the effects on low/moderate income (LMI) populations and social justice) and housing. The moral issue is this: How/why do we put those who have the most to lose during a flood in harm's way through our housing, zoning, infrastructure, and other policies? Unfortunately, this is exactly what federal policy does. For example, the Department of Housing and Urban Development does not have a universal policy against paying for housing in flood prone areas. At the same time, we recognize that much of the nation's affordable housing stock was built before climate change was well understood, and many affordable housing options are at risk of flooding. Thus, under current policies, the extreme shortage of affordable housing for low income families is squarely at loggerheads with the realities of flood risk. According to a recent study, nationwide about 450,000 government subsidized households are in mapped floodplain[6]. Therefore, if HUD were to withdraw support from all properties in the floodplain it would create a new crisis of homelessness creating a whole new set of problems.

- **HUD should examine its housing programs and create innovative mechanisms (i.e., targeted flood mitigation programs for existing at-risk affordable housing units) to incentivize communities, housing authorities, and landlords to undertake mitigation actions with a long-term goal of substantially reducing or eliminating flood risk.**
- **Incentivize the location of new affordable housing to ensure that it is in flood risk free areas.**

The Association of State Floodplain Managers appreciates this opportunity to share our observations and recommendations with this Committee. For any questions, please contact Chad Berginnis, ASFPM Executive Director at cberginnis@floods.org (608 828-3000), or Larry Larson, ASFPM Sr. Policy Advisor at larry@floods.org (608-828-3000).

[6] As stated earlier in this testimony this is likely a gross underestimate of the housing units at risk given that the nation's flood maps are not yet completed and they do not account for future conditions.