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BEFORE
THE COMMITTEE ON HOMELAND SECURITY AND
GOVERNMENTAL AFFAIRS,
UNITED STATES SENATE,
REGARDING
CONGRESSIONAL ACTION AND THE ROLE OF FEMA
IN ADDRESSING THE PUBLIC SAFTEY THREATS
OF WILDFIRE AND POST-WILDFIRE FLOODING
MARCH 14, 2024
Introduction

Chairman Peters, Ranking Member Paul, and distinguished Members of the Committee, I am honored by this opportunity to provide testimony on the role of Congress and the Federal Emergency Management Agency in addressing the public safety threats of wildfire and post-wildfire flooding. Wildfires, especially in the West, are becoming increasingly expansive, severe, and unpredictable. From the shores of Hawaii to the panhandle of Texas, wildfire ravages tens of millions of acres and impacts thousands of communities each year. Even once the wildfires are extinguished, secondary impacts, such as post-wildfire flooding, threaten the health and safety of affected communities for years.

As Coconino County’s Deputy County Manager and Flood Control District Administrator, I lead and take responsibility for mitigating the impacts of wildfires and post-wildfire flooding to our communities. In addition, my duties also involve leading the District’s Forest Restoration Initiative to reduce wildfire risk. I can tell you firsthand: The scale of these crises rapidly overwhelms the capacity of the local governments burdened with immediate response and long-term flood mitigation. While there are opportunities for federal support, there is much that must be done to improve the accessibility, immediacy, and effectiveness of federal response to the wildfire crisis, both relative to post-wildfire response and pre-wildfire mitigation.

I also want to note that I was privileged to represent counties across the country as I served on the Congressionally established Wildland Fire Mitigation and Management Commission (WFMMC). The decision by Congress to establish this Commission was very insightful and I believe the ultimate outcomes will be transformative. The Commission reached consensus on the 148 recommendations forwarded to Congress in September 2023 and I am very proud to have contributed the counties’ experiences to that process and product given that, in the vast majority of cases, it is counties that bear the brunt of wildfire disasters, and most disasters. My testimony today largely reflects my experiences leading both post-wildfire recovery processes and pre-wildfire mitigation efforts that our Flood Control District is known for nationally. As you will see below, I do connect my comments and suggested Congressional actions to the Commission’s recommendations as appropriate.

Wildfire and Post-Wildfire Flooding in Coconino County

Coconino County is no stranger to wildfire. Like many areas in the West, wildfire is a natural part of our forest ecology and vital to the maintenance of a healthy landscape. However, multiple factors, including fuel-loaded forests from a century of federal fire

1 www.epa.gov/climate-indicators/climate-change-indicators-wildfires
2 https://www.usda.gov/topics/disaster-resource-center/wildland-fire/commission
suppression policy\(^3\) and a warming, drying climate\(^4\) have created conditions in which wildfire in our region can quickly explode into a catastrophic wildfire.

Since 2010, Coconino County has endured nine major wildfires. The County has issued over 25,000 evacuation orders, lost over 130 buildings including 63 homes, and estimates that smoke from our wildfires have released 4.1 million metric tons of carbon into the atmosphere—roughly equivalent to the annual emissions of 900,000 fossil fuel vehicles.\(^5\)

The Southwest experiences a traditional monsoon season typically between July and October, and as our population centers occur close to steep mountainous areas with significant urban-wildland interface, Coconino County’s catastrophic wildfires have also resulted in severe and repetitive post-wildfire flooding.

**The Schultz Fire**

My first experience with post-wildfire flooding followed the 2010 Schultz Fire, which severely burned over 15,000 acres of U.S. Forest Service land on the San Francisco Peaks above Flagstaff, Arizona and caused upwards of $100 million in economic impacts.\(^6\) The wildfire was started by an abandoned campfire on federal land.

The experience was harrowing. Frankly, we entered this impending disaster not knowing a thing about how to prepare for or address post-wildfire flooding. As the wildfire neared containment, the Burned Area Response Team’s (BAER) analysis of the burned area indicated a risk of post-wildfire flooding. Fortunately, a local engineer had worked for the USDA’s Natural Resources Conservation Service (NRCS) and connected us to their state office. The District utilized the NRCS’ Emergency Watershed Protection Exigency funding to deploy concrete barriers and sandbags as short-term flash flood mitigation to the impacted area. If not for this source of funding (75%/25% cost share), then the County would have immediately exhausted all of its emergency reserves prior to any flooding.

On the afternoon of July 20, 2010, a monsoon storm with a 1.25” rainfall event in 15 minutes pelted the entire burn scar and sent debris flows and flash floods down the mountain into a far greater residential and business area than had been predicted and forcing the closure of U.S. Highway 89, the major transportation artery between Arizona, Utah and Colorado and key access corridor to the Grand Canyon National Park and the

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Lake Powell National Recreation Area. The floodwater killed a twelve-year-old girl. The short-term mitigation wasn’t enough – about 1,000 residential properties were impacted with over 100 homes severely flooded, and the rain kept coming. That summer and over several more summers, the Schultz Flood Area experienced an additional 40 major flood events.

The District/County, with the strong support of our then Senators McCain and Kyl and Congresswoman Kirkpatrick patched together the critically necessary federal funding to initiate long-term flood mitigation, which was completed in 2015. The watershed restoration measures on-forest and the flood mitigation measures off-forest constructed resulted in no flood impacts until the post-wildfire flooding from the Pipeline Fire in 2022, which reburned most of the Schultz Fire burn area. The only exception was a 1,000-year rainfall event in one of the watersheds in 2018. Even then the measures performed very well.

Coconino County had the rare good fortune to receive sufficient funding through Congressional action reappropriating funds to the then drained NRCS Emergency Watershed Protection Program to initiate long-term flood mitigation measures after the Schulz Fire. This, however, is the exception that proves the rule: strategically directed post-fire recovery funding can proactively prevent future cascading disasters. Most counties are not so fortunate. Commission Recommendation 76 calls for standing funding for the NRCS EWP Program. Furthermore, standing disaster relief funding to support the U.S. Forest with post-wildfire recovery is also needed.

Although the District’s Board had increased the District’s property tax to make the federal grant match and borrowed money from the County’s General Fund, the mitigation constructed would have taken over a decade plus if no federal funding had been forthcoming. It took total dedication and perseverance by our Board and leadership to secure what funding we could and work through the many processes involving numerous federal agencies. Most counties would not have been able to sustain this effort either financially or politically given the extraordinary challenges.

With regard to FEMA specifically, the Flood Control District and County appealed for public assistance from FEMA, and despite a Governor’s Disaster Declaration and a Presidential Disaster Declaration, the support the County received was very limited relative to the extent of the public safety measures that were needed—about $2.5 million (out of a total expenditure of about $32 million) delivered to late. By the time we received aid from FEMA (three years after the wildfire), we had already seen significant post-wildfire impacts to our communities. Increasing the deployment speed of FEMA

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wildfire and post-wildfire flood mitigation and recovery funds is called out in the Commission’s Recommendations 61 & 81.

Fortunately, I had a very capable Project Manager that had the capacity to wade through the PA application, complete the Benefit/Cost analysis and other documentation to apply for the funding. Many smaller and more rural counties, towns and Tribes do not have this level of capacity, which relates to the accessibility of FEMA and other federal funding as noted in the Commission’s Recommendation 142.

After the Schultz Fire post-wildfire flooding experience, the District learned that we could not count on FEMA to provide aid during a post-wildfire flood disaster – either through Public Assistance or the existing grants programs (PDA and FMA). Frankly, since then, the District has made some effort to secure reimbursement for sediment and debris removal after rainfall events reduce further impacts, but current FEMA policies that do not account for cascading events have prevented reimbursement for the vast majority of clean-up costs or let alone provided for long-term flood mitigation. The repetitive nature of monsoon rainfall events over generally a three to four-month period means that the flood impacts within any 72-hour window, which is FEMA’s imposed limitation, rarely, if ever results in qualifying for a Presidential Declaration or any threshold to receive reimbursement for a portion of the costs to address the impacts to existing public infrastructure, to receive individual assistance, or to address long-term flood mitigation.

Congressional Action Needed…

Amend the Stafford Act to reflect the cascading, repetitive nature of post-wildfire flooding – Commission Recommendation No. 64

One of the reasons it is difficult to receive support from FEMA during post-wildfire flood events is the Stafford Act, which currently limits qualifying disasters to a 72-hour window. When you’re dealing with a natural disaster like repetitive post-wildfire flooding where events may be drawn out over the course of an entire monsoon season, the cumulative impacts may well exceed the financial minimum needed for a Stafford Act declaration, but because the events have not been confined to a 72-hour window, the disaster will not qualify for aid. Amending this act to enable multiple events stemming from the same cause to be treated as additive under federal wildfire and disaster recovery programs will increase accessibility to much needed aid, and, importantly, reduce the overall impact of multiple, smaller cumulative disasters.

The Slide Fire

The County and the community of Sedona, Arizona went on to endure the Slide Fire in Oak Creek Canyon in 2014, and although there was limited post-wildfire flooding from this wildfire, the State and regional area experienced a 40% reduction in sales tax
revenues over the first four months after the wildfire. Although the economic impacts softened over the course of the next year, the impacts did continue. Importantly the District once again worked with the NRCS EWP Exigency Program to deploy short-term flood mitigation measures.

The Tinder Fire and Tunnel Fire

Once again in 2018, Coconino County endured the Tinder Fire, which claimed 33 homes. The County received virtually no post-wildfire support from any State or Federal agencies. This was also true after the Tunnel Fire in 2022 burned down 31 homes – beyond some reimbursement through Arizona Department of Emergency Services for County-related evacuation costs, the County had to cover all the costs for sifting through the remains of the homes and some initial clean-up of the properties, both in terms of homes and hazard tree removal. The County contracted with Team Rubicon and the Southern Baptist Disaster Response Team to perform these services. Although a minimal amount of the cost is covered by these wonderful response non-profit agencies, the County bears the lion’s share of these costs to the tune of over $300,000 for the Tunnel Fire alone.

Congressional Action Needed…

Altering FEMA’s Public Assistance and Individual Assistance Programs to support smaller, rural and/or disadvantaged local jurisdictions and Tribes for some level of the expenditures related to wildfire recovery, where the total losses of public infrastructure or homes does not meet the FEMA Disaster thresholds would very positively impact the recovery in those communities. Furthermore, and as noted in Commission Recommendations 60 and 68, better funding and coordination of federal post-wildfire resources when wildfires do qualify for FEMA assistance programs is needed. When county budgets are severely impacted in such a way as to significantly diminish local revenue, federal support is critical.

The County has discovered that residential insurance coverage was very limited with regard to clean up costs, that many properties were underinsured and that some homeowners had no insurance, including a disabled veteran who also lost most of his income when his small rental unit burned as well as his home. There is at least one disabled homeowner in the Tunnel Fire area that cannot return to their property because they did not have insurance nor the resources to even purchase a “tiny” home or mobile home to place on the property. The Commission recognized these insurance related challenges and recommended Congress request a comprehensive study on the relationship between financial protection solutions available through the private market.

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and federal disaster recovery to support federal efforts to modernize federal post-disaster recovery benefits (see **Commission Recommendation 69**).

**Insurance Crisis in Wildfire Prone Areas**

As a side note, securing fire insurance in our area is becoming increasingly difficult for homeowners. It appears that many insurance companies’ wildfire risk maps are not updated to show risk reduction efforts by the U.S. Forest Service or others. Certainly, the County understands that many communities within our area are at higher risk of wildfire, but the investments in forest restoration being made by the Federal Government, by our District through our [Forest Restoration Initiative](#), and by our local Fire Districts should be documented and reflected in not only the ability to secure insurance but also in the insurance rates. The District and County understand that insurance companies are regulated at the state level, however given the broad human and economic ramifications of the insurance/wildfire crisis it may be necessary for Congress to begin to identify longer-term measures to address this issue.

**Museum Fire**

When the [2019 Museum Fire](#) burned nearly 2,000 acres a mere mile and a half from the urban center of Flagstaff, the District’s prior FEMA-funded post-wildfire flooding study had identified the area as at serious risk for significant post-wildfire flooding. Flood modeling showed that post-wildfire flooding would pose a hazard to over 400 homes and 35 businesses valued at over $300 million, which also includes a low-income area that houses many of our working-class families.

With only two weeks before the expected onset of the monsoon season, the District mounted a herculean effort to produce hundreds of thousands of sandbags and place concrete barriers at the homes and businesses at high risk for post-wildfire flooding expending about $4 million. The City of Flagstaff spent significant resources preparing drainage infrastructure, which was very undersized given the post-wildfire flood flows had increased tenfold. Neither the District nor City received any support from FEMA/DEMA for these proactive measures, but recognized that such work could prevent significantly greater impacts after a major flood event.

In a turn of bittersweet luck, that summer and the following summer came with severe drought, and we never saw the monsoon rainfall events that induce post-wildfire flooding. This gave the District some time to piece together resources and implement a degree of long-term flood mitigation, but our efforts still weren't enough. In 2021, monsoon rainfall on the Museum Fire scar (one 200-year, and several 25 to 50-year rainfall events) sent water rushing through several dense residential neighborhoods of Flagstaff, flooding 88 homes, damaging public infrastructure and impacting roadways.
with sediment and debris. The District spent upwards of $2 million with no support from FEMA, but with additional resources, likely could have prevented many of these impacts.

This year, the District completed the a suite of watershed restoration and sediment reduction projects in support of long-term flood mitigation of the Museum Fire impacts spending about $7.7 million in total. This could not have taken place if not for not the foresight and disaster related funding from the U.S. Forest Service ($3.6M) and the Natural Resources Conservation Service ($2.7M). The City of Flagstaff is still working to improve their streets and stormwater infrastructure to cope with the increased post-wildfire flows. While we can use emergency funds and cobble together some sources of federal support, the severe and repetitive nature of these events cumulatively continue to exceed our local capacity. Additionally, as we use limited local funds to try to address these issues, subsequent rainfall continues to cause damage and create financial impacts. The District expenditures to date have totaled $5.3 million to address both response, short-term and long-term mitigation.

Congressional Action Needed…

Allow FEMA to reimburse for upfront, short-term mitigation and infrastructure preparation costs in preparation for post-wildfire flooding.

While some areas may qualify for the NRCS EWP Exigency Program to receive federal assistance for short-term post-wildfire flood mitigation measures like sandbags and concrete barriers, there needs to be a process to reimburse local governments and Tribes that do not qualify for EWP Exigency and for costs borne to prepare infrastructure for the dramatically increased flood flows. In the southwest region, where the rainy monsoon season typically occurs immediately after fire season, local governments and Tribes may have only a matter of weeks or days to deploy short-term post-wildfire flood mitigation so this means the funding is not only necessary but it also must come quickly. With a limited time period to deliver a response that better safeguards lives, and to reduce impacts to homes and public infrastructure, local leadership is forced to weigh the breadth of their response against their limited budgets unless federal resources are available immediately.

Furthermore, exigency funding through FEMA may provide a further benefit to the federal government by reducing costs for recovery in areas covered by the National Flood Insurance Program (NFIP) if the threatened area is also a FEMA Special Flood Hazard Area or is qualified to receive the exemption from the NFIP 30-day waiting period for flood insurance activation (exemption is enacted if the wildfire occurs on

11 https://apnews.com/article/climate-floods-wildfires-science-california-0b3fa035ca7b2dbf47fbc84919c0c4ac
federal land). The Museum Flood Area was a designated 500-year floodplain under FEMA's NFIP.

**Pipeline Fire**

The County had endured two more major wildfires—the Magnum Fire in 2020 and the Rafael Fire in 2021, before the 2022 Pipeline Fire burned much of the Schultz Fire scar as well as new areas. As soon as we saw the Pipeline Fire's path, we knew that the flooding was coming. The initial flood modeling conducted as the wildfire was being contained found that post-wildfire flood flows had increased from 10 to 26 times more than the pre-wildfire condition.\(^\text{12}\) The District created short-term flood mitigation plans for over 1,000 homes and produced and deployed over a million sandbags and placed over 4 miles of concrete barrier to mitigate flood impacts to those homes while also preparing its existing flood infrastructure (constructed post-Schultz Fire) for massive flooding. Some of the cost of the short-term flood mitigation was reimbursed by the NRCS EWP Exigency Program, but none of the infrastructure preparation costs qualified for any reimbursement. Not only that, but the $9 million in response and short-term flood mitigation measures we were able to deploy were not enough.

During the summer of 2022, monsoon rains caused 45 major post-wildfire flood events.\(^\text{13}\) These events included 13 separate closures of U.S. Highway 89, a vital interstate travel corridor, destruction of a major municipal water line serving Flagstaff, substantial damage to Forest Service and County-maintained roads, and devastating impacts to private properties and other public infrastructure.

Because of our prior experience with post-wildfire flooding, the District also immediately began to develop a plan for long-term flood mitigation while we braced for continuing flood impacts that summer. On August 17, 2022, the District, with leadership provided by Senators Sinema and Kelly and former Congressman O'Halleran held a federal agency summit to present our long-term flood mitigation plan with the goal of securing upwards of $120 million in federal, state and District funding to support that plan.

Although the flooding of summer 2022 had exhausted the District's flood-related budget and drained over $15.5 million from the County's General Fund, the District, again thanks to the support of Senators Sinema and Kelly and Congressman O'Halleran secured through the December 2023 Omnibus bill a little over $90 million in federal disaster-related funding through USDA\(^\text{14}\) (U.S. Forest Service and NRCS), which includes the District’s match of about $11 million. The NRCS EWP funding was a small


portion of a $940 million element of the Omnibus bill funding disaster support across the country and the Forest Service Disaster Relief funding was part of a $150 million to address disasters primarily in Arizona and New Mexico. The District’s match is being funded through a Arizona Department of Forestry and Fire Management grant program that expired last year. To date, we have constructed over $44 million of post-wildfire flood mitigation (completed mitigation in six of nine watersheds and their downstream neighborhoods) and watershed restoration in less than a year from receiving the funding with more construction to come this year.

This investment will bring a tremendous reduction in threat to lives and the likely economic impact for decades given it will take decades for the nine watersheds largely destroyed by the Pipeline Fire to recover. If this flood mitigation had to be solely funded by the District, then it would have taken likely decades to accomplish without the federal funding…once again federal funding is crucial for addressing wildfires taking place on federal land.

When designing and constructing our flood mitigation systems, we are routinely constrained by financial limitations. Again, many counties, Tribes and other smaller local jurisdictions do not have the capacity to orchestrate the response, planning and implementation needed to support economic, environmental, and social recovery, much as we have seen in New Mexico and many other wildfire ravaged areas.

Congressional Action Needed…

**Protect taxpayer investments by ensuring that FEMA funds can be applied to infrastructure improvements, not just ‘in-kind’ replacements – Commission Recommendation 79**

In Coconino County, we have seen wildfire-impacted watersheds discharge up to 26 times more floodwater than they did in pre-wildfire conditions. This is in part why post-wildfire flooding commonly overwhelms and destroys existing drainage infrastructure, which ultimately fails to avoid costs and losses resulting from post-fire flood and debris flow impacts.

Because post-wildfire flooding reflects a changed condition of a watershed, any repairs or replacements of infrastructure must also reflect this changed condition, at least to some reasonable extent. However, at present, FEMA Public Assistance funding is only applicable to ‘in-kind’ replacements of pre-existing infrastructure. This is an ineffective and costly oversight. Under this policy, the cycle of destruction and reconstruction will continue for many, many years. For example, the Pipeline Fire created much larger flood flows to an area that had received significant flood mitigation only seven to nine years prior. Even if we had met the current threshold to qualify for Public Assistance (which we would have if not for the issue of cascading events), FEMA could only financially support restoring the mitigation to the existing design.
Further Considerations for Improving Recovery from Wildfires

I also encourage the Department of Homeland Security to work with the FEMA to expand existing Categorical Exclusion N12 to include activities associated with post-wildfire soil stabilization and erosion control measures and/or work with FEMA to create a new categorical exclusion that addresses post-wildfire soil stabilization and erosion control measures, as such measures are critical to reducing the impact of flood sediment and debris on public and private property. This proposal was articulated in the Commission’s Recommendation 81. Coconino County believes that by creating regulatory changes such as the one noted above provides other jurisdictions with the opportunity to employ our County’s immensely successful post-wildfire flooding strategy that employs watershed restoration/sediment reduction measures integrated with downstream flood mitigation measures on both public and private lands.

Congress should look for opportunities to incentivize investments from other levels of government that will reduce the risk of wildfire and help ensure dedicated resources for wildfire and post-wildfire response and mitigation. This should include incentives for local, state, and Tribal governments to build capacity for wildfire resiliency, as well as incentives to maintain dedicated revenue streams for wildfire response and recovery. This could also include expanding the number of BRIC grants aimed at community wildfire risk reduction measures. Incentivizing investments from local and state government entities into wildfire resiliency, wildfire risk reduction, and response measures is called out in the Commission’s Recommendations No. 134 & 68.

In Coconino County, we have become adept at navigating the difficult and time intensive process of securing aid to address post-wildfire flooding. Fortunately, we have capacity, hard-earned experience, and we have developed systems and relationships that allow us to mobilize mitigation as quickly as possible. But this is not the case for other areas impacted by wildfire and post-wildfire flooding. In our neighboring state of New Mexico, where the Hermits Peak/Calf Canyon Fire burned nearly 350,000 acres at the same time as our Pipeline Fire, there has been limited ability to implement post-wildfire flood mitigation. There are many reasons for this sad situation, from the lack of authority and capacity at the local level, to the lack of effective coordination of federal resources.

Building Wildfire Resiliency

Forest Restoration on Federal Lands & Within Communities

Given our County’s experience with wildfires and post-wildfire funding, our Board of Supervisors identified these events as the County’s most critical threats to public safety and initiated a Forest Restoration Initiative in 2018 with the goal of interrupting the cycle of wildfire and post-wildfire flooding. The focus on our investments, totaling over $13 million to date is targeting forest restoration projects where the District has documented
significant downstream values at risk and dramatic economic impacts from a catastrophic wildfire and post-wildfire flooding. The link to the District’s Forest Restoration Initiative webpage is [https://www.coconino.az.gov/2083/Forest-Restoration](https://www.coconino.az.gov/2083/Forest-Restoration).

These projects have only been possible through partnerships with other funding entities including the U.S. Forest Service, Arizona Department of Forestry and Fire Management and the National Forest Foundation, and for upcoming targeted projects, The Nature Conservancy. While the BIL/IRA funding has significantly improved federal investments in the 21 priority landscapes, including the first and largest in Arizona, additional funding will be needed in Arizona and across the Western U.S. to reduce wildfire and post-wildfire flooding.

As forest restoration is progressing on federal lands, there remains wildfire threats emanating from within communities. I am glad to see that FEMA’s BRIC and HMGP grant programs are beginning to focus on fuels reduction projects in communities, which will complement funding through the U.S. Forest Service’s Community Wildfire Defense Grant program. However, streamlining FEMA’s processes, particularly related to Environmental and Historical clearances, is greatly needed. For example, the County was awarded a HMGP grant for $394,000 that was initiated in March 2020. To date, FEMA has not yet even completed the EHP, which the County offered to conduct through a qualified consultant but the offer was rejected. Although very grateful for the financial support, the completion of this process will likely take over five years, which is not satisfactory to the County and the community involved. The wildfire crisis in this country cannot continue to be dealt with as “business as usual.”

**Enhancing Development Policy & Building Codes to Enhance Wildfire Resiliency**

There are many challenges inherent in regulating development and building construction codes at the local level. In the west you will hear a common refrain, “Code of the West,” which translates to less government involvement in these policy areas is better than more. That said, the extraordinary costs and tremendous human toll of wildfires now takes these policy arenas are ripe for federal action, working in concert with entities like the National Association of Counties, Fire District Associations, the League of Cities and others to move forward with a regulatory framework as was articulated in the Commission’s Recommendation 6.

**Conclusion**

Chairman Peters, Ranking Member Paul, and distinguished Members of the Committee, thank you again for the opportunity to provide testimony related the Wildfire Crisis in the United States. Wildfire and post-wildfire flooding represent a crisis that is expanding across the United States and that requires a robust, unified response from all levels of government. I applaud you for holding this hearing and I remain committed to supporting Congress with making the necessary changes to improve wildfire mitigation, response and recovery.