

**Testimony of George Geissler, Washington State Forester
On Behalf of the National Association of State Foresters
Submitted to the U.S. Senate Committee on Energy and Natural Resources
Friday June 5, 2020**

Good morning, Chairman Murkowski, Ranking Member Manchin, and Members of the Committee. My name is George Geissler, State Forester and Deputy, Wildland Fire and Forest Health/Resiliency, Washington Department of Natural Resources, Past President of the National Association of State Foresters (NASF), Chair of the NASF Wildland Fire Committee, and member of the Wildland Fire Leadership Council (WFLC). I appreciate the opportunity to speak with you today and submit written testimony as the Committee examines the outlook for the remainder of the 2020 fire year, the complex issues surrounding wildland fire management, and the unique challenges presented by the COVID-19 pandemic.

NASF represents the directors of the state forestry agencies in all 50 states, eight U.S. territories, and the District of Columbia. State Foresters deliver technical and financial assistance to private land owners, along with protection of forest health, water and wildfire for more than two-thirds of the nation's forests, as well as partner with federal agencies through authorities like Good Neighbor Authority in managing and protecting the nation's federal forests. While the duties of state agencies vary from state to state, all share common forest management and protection missions and most have statutory responsibilities to provide wildland fire protection on all lands, public and private.

State Contribution

State forestry agencies contribute a significant portion of the overall wildland fire suppression effort nationally in terms of resources, personnel, capacity, and funds. Collectively, States reported spending \$1.9 billion on fire suppression, prevention, and mitigation in 2018, with \$1.4 billion spent on suppression alone. The overall federal cost of fire suppression for 2018 was \$3.1 billion. In 2018, there were 8,080 State personnel (including overhead and crews) mobilized through the National Interagency Coordination Center. Of those State personnel, 6,026, or nearly 75%, were mobilized to federal wildfires.¹ State forestry agencies also provide local governments and volunteer fire departments with access to fire and emergency response resources, which in 2018, included 93,656 firefighters, 91,940 fire engines, 2,851 dozers, and 620 aircraft. In 2019, 50,477 wildland fires burned nearly 4.7 million acres.² State and local agencies respond to the majority – 79% – of these wildfires across all jurisdictions.²

State Foresters work closely with Conservation Districts, Mayors, local and County Governments, Tribal and Federal partners across the US to deliver forestry programs and wildfire protection on a National scale. NASF is a key partner in the development and implementation of the National

¹ Statistics posted above were gathered from the Interagency Fire and Aviation Management Web Applications (FAMWEB) system, which includes the Situation Report and Incident Status Summary (ICS-209) programs. The statistics presented here are intended to provide a national perspective of annual fire activity but may not reflect official figures for a specific agency.

² National Interagency Fire Center, Historical Wildland Fire Summaries, pg. 8. Last accessed March 4, 2020 at https://www.predictiveservices.nifc.gov/intelligence/2019_statsum/intro_summary19.pdf.

Cohesive Wildland Fire Management Strategy (Cohesive Strategy), which provides the roadmap for interagency wildland fire management across the country and allows diverse stakeholders to work collaboratively using the best science to achieve resilient landscapes, fire-adapted communities, and effective wildfire response. NASF is also a key partner and member of the WFLC, an intergovernmental committee of Federal, State, Tribal, county, and municipal government officials convened by the Secretaries of the Interior, Agriculture, Defense, and Homeland Security dedicated to consistent implementation of wildland fire policies, goals, and management activities. The Council provides strategic recommendations to help ensure policy coordination, accountability and effective implementation of Federal wildland fire management policy and related long-term strategies through collaboration.

COVID-19 Response

The COVID-19 pandemic has posed significant challenges for wildland fire professionals, including, but certainly not limited to, setting standard operating procedure for suppressing wildfires. The Centers for Disease Control and Prevention's guidance for social distancing are not necessarily compatible with the existing systems for addressing wildland fire. From training and recertifications, to public evacuation plans, to feeding, sheltering, and transporting firefighters: nearly every aspect of wildfire suppression operations require adjustment in order to avoid COVID-19 exposure and outbreaks. If an outbreak were to occur in a fire camp, for example, it would not only endanger firefighters, their families, and other community members, but it would also impact the nation's emergency response capabilities.

Realizing the need to address this issue, the National Multi-Agency Coordinating (NMAC) Group [activated three Area Command Teams](#) on March 17, 2020 and tasked them with developing COVID-19 Wildland Fire Response Plans for each of the wildfire geographic areas across the country. These plans ensure there is a standardized approach to managing wildland fires on an interagency basis that protects life, property, and resources and reduces exposure to COVID-19. The Area Command Teams worked with the chair of each Geographic Area Coordinating Group and States engaged in this process through the Coordinating Groups.

These [ten geographic COVID-19 Wildland Fire Response Plans](#) were completed in early May and include best management practices and planning tools for State and local wildland fire managers that can be tailored to their specific needs. The plans' general implementation strategies strive to maintain firefighter capabilities for initial and extended attack, coordination and support functions, and safety protocols. Many states and regions, such as my own Region 6 consisting of Washington and Oregon, have taken these geographic plans even further to provide greater, more locally relevant, strategies and practices to aid our firefighters on the ground. Given the constant influx of new information, these plans are considered living documents and will be updated and adapted as needed.

NMAC has also provided an [Interagency Checklist for Mobilization of Resources, assessments on incident feeding options for this year](#),³ and [Airtanker Temporary Home Base Direction](#). Additional

³Developed by the U.S. Forest Service National Technology and Development Program and interagency experts. See <https://www.nifc.gov/nicc/administrative/nmac/NMAC2020-19.pdf>

resources for multiagency use were developed and updated by the National Wildfire Coordinating Group (NWCG) Emergency Medical Committee. The [Infectious Disease Guidance for Wildland Fire Incidents](#) provides recommendations for Incident Management Teams (IMTs) to be equipped to prevent, plan for, recognize, and respond to infectious outbreaks. Guidance and tools such as these are helpful in providing a consistent interagency message while still allowing local and State agencies the space to develop protocols that makes sense for their specific circumstances.

Accounts from those involved in the NMAC COVID-19 Wildfire Response Plan process, as well as other COVID-19 response efforts, have reflected positively on the quality of interagency coordination and communication. In development of these plans, [lessons learned](#) by the Area Command Team members were collected. Notable from their report, was the desire to develop interagency messaging to employees and the public around how the added complexities of COVID-19 are being handled and the potential ramifications of those risk trade-offs. Interagency leadership at the Federal and State level have messaged on the risk management focused tactics for the year, indicating response would focus on strong initial attack to rapidly contain fires and limit firefighter exposure. Managed fire has been largely tabled as a landscape tool due to the potential enhanced dangers to fire personnel and the public caused by the pandemic. It is important to acknowledge and message the realities of COVID-19 may in some ways temporarily impair our ability to further some aspects of the Cohesive Strategy, namely allowing fire to play a natural role and adapting to living with fire. While shifting efforts is necessary this year, communicating to the public those objectives will still be critical to reduce wildfire risk in the future and must be a firm commitment from all in the wildland community and Congress . NASF thanks the Committee for this opportunity to publicly detail the work being done and continued interagency commitment to manage these enhanced risks as well as our nation’s forests.

Due to the increased emphasis on aerial resources this year, specific guidance has been released to ensure the safe and strategic use of these resources. NWCG’s National Interagency Aviation Committee in coordination with the Fire Management Board and NMAC developed and [released](#) the [NWCG Standards for Aviation Operations](#). NMAC has also released [direction on surge capacity Type 1 and Type 2 helicopter mobilization](#), which details the 36 surge capacity helicopters added by the USDA Forest Service (Forest Service) to the National Exclusive Use Helicopter fleet. They are available for 90-day contracts and will be located at initial host bases identified by the Geographic Areas. Reassignment of these resources will be determined strategically by examining the Predictive Services outlook by Geographic Area, National and Geographic Area Preparedness Levels, National and Geographic Area Priorities.

Since March, wildland fire managers have learned how best to implement COVID-19 protocols and practices. Some initial guidance was found to be impractical or to increase risk. For instance, simple changes, such as driving separate vehicles to an incident, can make parking at an incident difficult and cause response delays. There is also concern that more response vehicles on the road may increase the number of traffic accidents. Translating medical guidance on mask wearing to the field has also been a challenge. Complaints about wearing masks on the fire line was common, due to inhibiting communication, breathing, and situational awareness. Oftentimes these complaints describe personnel functioning within their module, which is similar to a household, where the guidance had not suggested mask use. Clearly communicating these nuances has surfaced as a need based on reports from the field. These post fire reports have been shared widely

across the wildland fire community, including internationally.⁴ It is through this open information sharing across all agencies that improves our management practices.

While some reports have highlighted issues in the application of these protocols, other reports relay that other methods are successfully keeping wildland firefighters safe. A firefighter presented with a fever during screening at the end of an incident in Utah and though the test did eventually come back negative, they were able to successfully test and quarantine the firefighter and isolate their engine module while they awaited the results. In my own state of Washington, DNR has established screening protocols and we have identified a COVID-19 positive firefighter and through tracing and isolation managed to prevent the spread of the virus in that crew module. In Florida, two IMT deployments and a third fire which required the deployment of multiple strike teams resulted in a total of 234 personnel tested, all of which came back negative. These reports highlight the protocols in place are being executed properly, and so far, have appeared to be successful. All agencies need to continue to support these efforts by ensuring firefighters have the proper equipment to implement safety protocols.

We appreciate the leadership from Chairman Murkowski in sending a [letter](#) to Secretaries Bernhardt and Perdue requesting adoption of an aggressive initial attack strategy and ensuring sufficient aircraft are available in the 2020 fire season. Attacking fires early with aerial resources helps minimize the use of personnel on-the-ground, where social distancing becomes increasingly difficult, particularly when reacting quickly in emergency situations. When use of ground resources becomes necessary, it is critical that sufficient inventory of personal protective equipment (PPE) and testing kits are made available to ensure the safety of our wildland firefighters, as recommended in a [letter](#) by Chairman Lisa Murkowski, Senator Tom Udall, and Ranking Member Joe Manchin to Vice President Mike Pence. NASF has submitted similar [recommendations](#) to Chairman Murkowski to provide states support for both PPE and aerial resources for aggressive initial attack capabilities to assist in safeguarding fire personnel, communities, and property through this challenging fire year.

Our Nation's Forests and Wildfire

Fire is a natural phenomenon for nearly every forest ecosystem in this country. Fire has shaped the occurrence and distribution of different ecosystems for centuries, simultaneously impacting the human and natural communities that live in and around those forests. Over the past century, a culture of fire suppression has unfortunately removed the natural role of fire from many fire-dependent landscapes. This culture, combined with less active forest management in many areas, has led to the build-up of hazardous fuels to historic levels. In our attempts to manage wildfires away, we've inadvertently made our forests more prone to catastrophic wildfire.

Federal, State, and local fire managers have learned the critical role of hazardous fuels management in mitigating wildfire impacts. Solely focusing on wildfire suppression and ignoring proactive forest management does not lead to fewer wildfires in the long run; the fuel continues to build up to the point where eventually wildfires become unmanageable. The task for wildfire

⁴ See [Wildland Fire Management under COVID-19. Brief 1. Review of Materials](#)

managers is to manage the risk to communities and ecosystems in both the short- and long-terms by implementing a coordinated and science-based program of fuels reduction, fire suppression, and community planning.

Hazardous fuels reduction has two main components: prescribed fire and silvicultural treatments, such as “thinning.” Both activities have a beneficial impact on mitigating wildfire emissions by reducing combustible material in the forests and allowing fire to play its natural role in the ecosystem. In many parts of the country, especially on federal lands which have not seen regular management, forest stands are too dense to conduct prescribed fire and thus forest thinning is a crucial first step in managing hazardous fuels. Following a harvest treatment, prescribed fire can be an important tool to maintaining the investment of a more healthy and resilient forest and minimizing the risk of catastrophic wildfire.

Wildland fire response is one of the most challenging facets of our jobs. As State Foresters, we believe we need to be doing significantly more hazardous fuels reduction across all ownerships – public and private and across this country. We are committed to continue working towards this goal. Such treatments allow us to put fire on the landscape at times and under conditions that minimize impacts, including smoke emissions. These treatments reduce fuel loading in the forests, so that when wildfires inevitably occur, they burn with less intensity, reduced spread, and fewer smoke impacts on communities and firefighters.

Where forests of different ownerships exist in close proximity to each other, it is critical that decisions about suppression and fuels treatments get made in a collaborative and cooperative way. This is especially true for federal lands on which fire management often has a direct impact to adjacent state and private lands and/or communities.

Fuel Treatments and Active Management

America’s federally managed forestlands face serious threats. Entire landscapes are experiencing deteriorating health and uncharacteristic ecological change as a result of insects and disease, catastrophic wildfire, and other forest health stressors. Forest health threats know no boundaries and there is an urgent need for more active management on these landscapes in order to protect both public and privately-owned forests and the communities that depend upon them. State Foresters are responsible for protecting the health and socio-economic benefits of forest resources within their jurisdictions; what happens on federal forests has a direct bearing on their ability to fulfill those responsibilities.

Intentional management is necessary to improve the resilience of federal forest lands. In regions with a mixture of ownerships, the prerequisite for success is landscape-level coordination, which includes the full participation of federal partners.

A great example of this interagency cooperation leading to on-the-ground decision-making related to wildfire, ecosystems, and hazard risk reduction which was brought to my attention by my State Forester counterpart in Alaska, Chris Maisch, is the Nenana Ridge Experimental Fuels Treatment Research Project, funded by the Joint Fire Science Program. This project was designed to quantify the effects of fuels reduction treatments on fire behavior and post-fire vegetation dynamics in

Alaska black spruce forests. Mechanical (e.g., shearblading) and manual (e.g., thinning) fuel treatments are commonly used by Alaska fire managers and agencies for mitigating fire risk. However, prior to this experiment, there was little documentation of the actual effect of different fuel treatments on fire behavior. The Nenana Ridge project began in 2006 with the preparation of eight 1-acre treatment blocks with two controls. A prescribed burn was conducted on five of the blocks in June of 2009. The primary objective of the project was to characterize the effectiveness of the treatments in reducing fire intensity. Fire-proof digital sensors and video cameras were used to document the burn, in addition to measurements of vegetation, fuel beds, and fuel moistures, which allowed scientists to compare fire behavior between control plots and fuel treatment plots. All treatments that burned resulted in significant reductions in fire intensity and spread.

This study was the first of its kind testing the effect of four fuel treatments on fire intensity in the boreal forests of Alaska. The anecdotal ($n = 1$) evidence suggests that all treatments significantly reduced fire intensity. The thinning treatment modified fire behavior while maintaining an aesthetic that closely matched the original forest stand; it also led to the lowest peak heating rates and was the most effective in stopping fire spread. The shear-blade treatments produced the lowest air temperatures with some indication that grass loads that could develop in years subsequent to the treatment could facilitate fire spread across the entire treatment area.

Subsequent fuels treatments in Alaska were tested by wildfire during the Eagle Trail (2010), Funny River (2014), Card Street (2015), and Nenana Ridge (2015) fires. In all documented cases the Alaskan fuel breaks changed fire behavior as the fire moved through untreated wildland fuels as an active crown fire and dropped to a surface fire in the treatment areas.⁵

I would like to highlight an example of an Alaska fuel break project which resulted in a successful burn out operation on the Shovel Creek fire near Fairbanks in the summer of 2019. The fuel break was created using shear blade by dozers and a windrow/burn treatment. The shear-blade work was done in the winter of 2007. Burning of the windrowed piles was accomplished in late fall 2009 after curing for a few years. The curing of the fuels was a smoke management technique to lessen smoke impacts during the burning as the cured fuels combust more completely and quickly. The line is over 22 miles in length and runs along a ridge between the outskirts of Fairbanks and open country to the north of town.

[This operation secured the north flank of the Shovel Creek Fire](#), which was a Type I incident, and protected over \$187.5 million in private property. This is a conservative estimate as it only includes parcels in the Level III and II evacuation areas. The costs were covered by a combination of State Fire Assistance Wildland Urban Interface (WUI) grants, which are awarded through a competitive process with emphasis on hazard fuel reduction, information and education, and community and homeowner action, American Recovery and Reinvestment Act (ARRA) stimulus funding and other funds, following the large 2004 and 2005 fire seasons.

And every state has ongoing efforts to improve the resiliency of our forests and provide opportunities for our firefighters by implementing and evaluating effectiveness. In a recently

⁵ Final Report: Evaluating the Effectiveness of Fuel Treatments in Alaska JFSP Project 14-5-01-27
https://www.frames.gov/documents/alaska/docs/little_et_al_2018_EvaluatingEffectivenessFuelTreatmentsAlaska_jfsp-14-5-01-27.pdf

published research paper, scientists evaluating fuel treatments across all lands found that not only was burn severity significantly lower within the footprint of past fuel treatments than in untreated forest but in Washington.⁶

- Fuel reduction treatments that combined mechanical thinning from below with post-harvest broadcast burns were particularly effective.
- Placement of fuel reduction treatments mattered. Burn severity was significantly lower in fuel treatments positioned on leeward slopes (sheltered from wind, and typically drier and warmer than windward slopes).

With each fuel treatment and with each fire, we learn and we get better.

Communities at Risk

More people living in fire-prone landscapes, high fuel loads, drought, and deteriorating forest health are among the factors that led most state foresters to identify wildland fire as a priority issue in their Forest Action Plans. Forest Action Plans are statewide forest resource strategies and assessments of trees and forests within their boundaries, regardless of ownership. Developed in cooperation with diverse groups of stakeholders, these plans serve as roadmaps to implement strategies to conserve working forest landscapes, protect forests from harm, and enhance public benefits from trees and forests.

We now grapple with increasingly expensive and complex wildland fires – fires that frequently threaten human life and property. A community is considered at risk from wildland fire if it lies within the WUI as defined in the federal register (FR Vol. 66, No. 3, Pages 751-754, January 4, 2001). A community is at reduced risk if it has satisfied at least one of the following:

- (1) Recognized as a Firewise community or equivalent, or
- (2) Enacted a mitigation/fire prevention ordinance, or
- (3) Reduced or appropriately maintained hazardous fuels treatments on lands identified as high-priority in its Community Wildfire Protection Plan (CWPP) or equivalent plan.

Although the number of Communities at Risk (CAR) has increased over the years due to more people moving into, and more communities being built in the WUI, there has been significant progress towards reducing the risk of wildland fire for these communities. In 2007, NASF identified 51,612 CAR, with 70,399 identified in NASF's 2018 Communities at Risk Report. Since 2006, the number of CAR covered by a CWPP or equivalent has increased from 3,264 to 17,857, a more than five-fold increase.

National Cohesive Wildland Fire Management Strategy

There is a growing recognition that what was once considered unusual or extreme for an individual fire, or the duration and intensity of a local fire season, is becoming more common place. NASF is a key partner in the development and implementation of the National Cohesive Strategy and its

⁶ Prichard, Susan J., Nicholas A. Povak, Maureen C. Kennedy, and David W. Peterson. 2020. Fuel treatment effectiveness in the context of landform, vegetation, and large, wind-driven wildfires. Ecological Applications 00(00):e02104. 10.1002/eap.2104

three primary goals:

- Restore and Maintain Resilient Landscapes
- Develop Fire Adapted Communities
- Provide Efficient and Effective Response to Wildfires

We must remember that it is not only important to lower the risk to communities, but once the risk has been reduced, to maintain those communities at a reduced risk.

State Fire Assistance and Volunteer Fire Assistance

The Forest Service State Fire Assistance (SFA) and Volunteer Fire Assistance (VFA) programs are the fundamental federal assistance programs that States and local fire departments use to develop and enhance preparedness and response capabilities for wildland fire management. They provide crucial financial and technical assistance to support State and local fire management activities, including preparedness, planning, training, hazardous fuels treatments, and the purchase and maintenance of equipment.

Continued support and sufficient funding are needed for the SFA and VFA programs. These programs recognize the essential role of State and local government in responding to and managing wildland fires and help to ensure these entities can respond effectively to wildland fires on all jurisdictions, including federal lands.

In fiscal year (FY) 2019, SFA provided over \$16 million in funding for hazardous fuels treatments, benefiting 1,115 communities in the WUI. This funding led directly to the treatment of 190,635 acres of hazardous fuels, nearly four times the acreage treated in FY 18, with another 112,579 acres treated with leveraged funding from partners. Additionally, roughly \$3 million in assistance was provided to conduct risk assessments and complete fire management planning projects, supporting 5,248 communities. Over \$6 million in funding was provided for the purchase, maintenance, and rehabilitation of needed firefighting equipment, and nearly \$7 million in funding enhanced suppression and support operations. Also in FY 2019, SFA funding assisted 13,294 communities through a variety of different activities, including funding for the training of 30,344 firefighters.

The VFA program provides technical and financial assistance to qualifying local volunteer fire departments that protect communities with populations of 10,000 or fewer. There are over 26,000 rural and predominantly volunteer fire departments nationwide, and State forestry agencies provide wildland fire training to over 57,000 local fire department personnel each year. This capacity is critical because these state and local resources are the first responders to more than 80% of wildland fires – whether on state, federal or private lands. According to the Forest Service, during FY 2019, the VFA program aided communities by providing training for 20,647 firefighters, expanding or organizing 23 fire departments, and purchasing, rehabilitating, or maintaining over \$10 million in equipment for volunteer fire departments.

Combined, SFA and VFA trained over 50,000 firefighters in 2019, provided over \$16 million in funding to rehabilitate existing equipment or purchase new equipment, and assisted over 15,000

communities with increased suppression capacity.

Attacking fires when they are small is the key to reducing fatalities, injuries, loss of homes, and cutting federal fire-fighting costs. The wildfire funding fix passed by Congress as part of the 2018 Omnibus appropriations bill addressed the need to increase funding for fire suppression on federal lands. The need to increase fire suppression funding for State and private lands, where roughly 80% of wildfires occur, is just as urgent.

The Federal Excess Personal Property and Firefighter Property Programs

There are two additional programs critical for supporting the capacity of state and local agencies; the Federal Excess Personal Property (FEPP) program and the Firefighter Property Program (FFP). Over a five-year period (2014-2018) these programs delivered on average over \$170 million annually in equipment used to fight wildfires.

The FEPP program loans federally owned property to state forestry agencies and their cooperators for use in responding to wildfires. This includes equipment such as trucks, fire tools, hoses, vehicle parts, nozzles, generators, air compressors, fire protection clothing, aircraft, and aircraft parts. The FFP gives firefighters access to Department of Defense property for use in firefighting and other emergency services and allows ownership to pass from the federal government following a specified period of use.

These two programs are crucial to rural communities and small fire departments, as federal excess equipment may be the only affordable equipment available to them. States and local fire departments are often the first responders to wildfires – they utilize the equipment these federal excess property programs provide to keep wildfires small and contained, providing major cost-savings and critical protection for communities.

Continued federal assistance is needed so that all these programs will continue to help the many thousands of communities at risk to prepare for, and mitigate the risks associated with, wildfires.

Conclusion

Thank you for the opportunity to appear before the Committee today on behalf of the Washington Department of Natural Resources and the National Association of State Foresters. Wildland fire response is one of the most challenging facets of our jobs. The COVID-19 pandemic has presented a unique set of challenges to wildland fire operations and the interagency wildland fire community has responded accordingly. We appreciate the work of this committee to address these issues today and for its continued support of wildland firefighters across the nation. The suite of federal programs discussed today support state and local capacity that is critically important to the nation's wildland fire response capability. NASF and I stand ready to assist the Committee in finding ways to address the challenges we all face as the wildland fire problem continues to grow and consume larger and larger portions of our state and federal budgets. Finally, I would like to thank the Committee for its continued leadership and support of efforts to both respond to wildland fire and to take the necessary actions to address the underlying causes of catastrophic wildfire with more active forest management on all ownerships.