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Chair Hageman, Ranking Member Hoyle, and distinguished members of the Committee, I am pleased to be invited to speak with you today to provide testimony regarding forest health and wildfire impacts on water resources.

In the Western United States, water is our most precious resource. A clean, reliable drinking water supply sustains vibrant communities and economies in my home state of Colorado and across the West. While there are many challenges facing water providers to maintain this essential service, the threat of wildfire often represents one of the most pressing and consequential challenges.

For the past seven years I have worked on this challenge as a Watershed Scientist at Denver Water, where I manage our forest health and wildfire resilience programs. Denver Water is the oldest and largest water provider in the state of Colorado. We provide drinking water to one quarter of the state's population using less than 2% of the water in the state.[1] I have also worked on this challenge as a former member of the Wildland Fire Mitigation and Management Commission (Commission) having served in the Public Utility Industry seat. The Commission was established by statute in the 2021 Infrastructure Investment and Jobs Act (Pub.L. No. 117-58) and delivered two reports to Congress with recommendations aimed at addressing the rising risk of wildfire in the United States.[2]

At Denver Water, we have determined that wildfire is one of the greatest threats to our source water supply. The threat of wildfire is not theoretical to Denver Water. We have experienced numerous high-severity, catastrophic wildfires within our raw water collection system over the past three decades that have degraded source water supplies, clogged water collection infrastructure, and threatened our ability to fulfill our mission. The 1996 Buffalo Creek Fire and the 2002 Hayman Fire are two examples of wildfires that burned at an uncharacteristic severity within Denver Water's raw water collection system and resulted in substantial water resource impacts. Brown, sediment-laden water combined with thousands of burned, unearthed trees and other debris entering our reservoirs created extraordinary challenges to maintaining the delivery of clean water to our 1.5 million customers. Managing these impacts was also costly. In total, Denver Water spent over $27 million recovering from these two wildfires alone.[3]

While the costs incurred by Denver Water were impactful, this figure represents a small portion of the comprehensive costs of high-severity wildfire. The total cost of the Hayman Fire alone

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[1] https://www.denverwater.org/about-us/sustainability/water
[2] For a copy of the final report, see: https://www.usda.gov/sites/default/files/documents/wfmmc-final-report-092023-508.pdf
[3] https://www.denverwater.org/tap/legacy-colorados-largest-wildfire

was estimated to be $207,700,049, including over $42 million spent by the federal government just on fire suppression.[4] This cost estimate does not include the economic impact associated with the loss of the South Platte River trout fishery and other valuable ecosystem services and aquatic resources.

In the aftermath of the Buffalo Creek and Hayman wildfires, Denver Water and partners across Colorado took action. Recognizing the unsustainable expenses and significant impacts to infrastructure associated with reacting to wildfire, Denver Water adopted a proactive approach to watershed and forest management. In partnership with the Rocky Mountain Region of the U.S. Forest Service, Denver Water created the From Forests to Faucets Partnership (Partnership) in 2010 to begin mitigating the risk of future high-severity wildfires in high-value watersheds. Rather than attempting to eliminate fire, the goal of the Partnership is to build resilience to wildfire through proactive forest management.

In total, the Partnership has invested $96 million in proactive forest management to restore forests to their historically fire-resilient structure and composition.[5] The Partnership has since expanded to include the Colorado State Forest Service, the Natural Resources Conservation Service, and the Colorado Forest Restoration Institute and is now in its sixteenth year of investing in forest management to protect water supplies.

With this perspective, I am here today to share three high-impact principles for federal leadership to further the protection of water supplies from wildfire impacts. The following principles are also consistent with the recommendations provided by the Commission.

My first message is that shifting from a reactive to a proactive forest and wildfire management approach will protect water resources and save public dollars.

The cost of reacting to wildfire is unsustainable. In 2023, the federal Joint Economic Committee estimated that wildfires cost the U.S. up to $893 billion each year, which is equivalent to 4% of the U.S. gross domestic product.[6] The upfront investments needed to increase community and ecosystem resilience to wildfire are a fraction of the cost the U.S. is currently incurring from wildfire. A recent meta-analysis of investments in forest management over the past 20 years estimates that every one dollar spent on forest treatments saves approximately seven dollars.[7] As the Commission states, “Only by putting significantly more focus and resources toward proactive pre-fire and post-fire planning and mitigation can we break the current cycle of increasingly severe wildfire risk and losses; restore fire-adapted ecosystems; reduce risks to communities and increase resilience.”[8]

At Denver Water, our sustained commitment to the From Forests to Faucets Partnership’s proactive approach is driven by our mission to be financially responsible to our ratepayers. We

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[4] https://headwaterseconomics.org/wp-content/uploads/full-wildfire-costs-hayman-casestudy.pdf
[5] https://www.denverwater.org/tap/improving-forest-health-fire
[6] https://www.jec.senate.gov/public/_cache/files/9220abde-7b60-4d05-ba0a-8cc20df44c7d/jec-report-on-total-costs-of-wildfires.pdf
[7] https://doi.org/10.1016/j.ecolecon.2024.108244
[8] https://www.usda.gov/sites/default/files/documents/wfmmc-final-report-092023-508.pdf, p. 20

know this upfront investment in proactive watershed management results in the avoidance of far greater costs and losses. A cost-benefit analysis led by economists at Colorado State University estimated that the Partnership's initial $60 million investment resulted in avoided costs of up to $234 million.[9] This avoided cost was the result of more than a decade of consistent proactive forest management enabled by sustained and predictable investments.

There are several existing federal programs that employ this proactive approach and should be expanded on. The Collaborative Forest Landscape Restoration Program (CFLRP) and Joint Chiefs Landscape Restoration Partnership (Joint Chiefs) are two such programs that have been successful in Colorado at leveraging non-federal resources and increasing the pace and scale of wildfire mitigation work. However, funding is often still a limitation to increasing proactive forest management. Increased appropriations to the CFLRP and Joint Chiefs programs could be utilized quickly and effectively to accomplish more forest management projects and promote the proactive wildfire management approach.

My second message is that efficient and effective post-fire recovery programs are essential to minimizing impacts to water supplies after a wildfire.

The greatest impacts to drinking water supplies typically occur after a fire is extinguished. Post-fire rain events over burns scars often mobilize newly loose soils, ash, and debris and carry these materials off hillslopes and into waterways.[10] For water providers, this can result in degraded and sometimes untreatable water quality entering water treatment plants as well as clogged and damaged water collection and conveyance infrastructure.[11] Furthermore, the threat of post-fire flooding and debris flows exist until the burn scar has substantially recovered, resulting in water providers experiencing these impacts multiple times from the same fire and being vulnerable to continued impacts for many years after the fire is out.

Therefore, the effectiveness of wildfire recovery efforts directly impacts the vulnerability of water providers. Post-fire recovery can be improved to further minimize impacts on water supplies by creating more cohesion across the post-fire recovery system and investing in preparedness. The Commission describes the current state of post-fire recovery well: "This dispersed and decentralized system, overlapping areas of responsibility, and incremental approach has created conditions where programs to support post-wildfire flooding and debris flow risk mitigation are often reactive instead of proactive."[12] Improved cohesion should start with authorizing post-fire programs to span jurisdictional boundaries. Cross-jurisdiction authorizations would be particularly beneficial in post-fire assessments and in funding programs such as the Natural Resources Conservation Service's Emergency Watershed Protection Program (see Commission recommendations 75 and 76).[13]

Post-fire recovery is often time sensitive, with an urgency to implement infrastructure hardening and landscape rehabilitation projects before substantial post-fire rain events occur. Increased

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[9] https://cfri.colostate.edu/wp-content/uploads/sites/22/2021/02/Jones-et-al-F2F-ROI-Final.pdf
[10] https://www.fs.usda.gov/rm/pubs_journals/2019/rmrs_2019_hohner_a001.pdf
[11] Ibid.; https://www.denverwater.org/tap/legacy-colorados-largest-wildfire
[12] https://www.usda.gov/sites/default/files/documents/wfmmc-final-report-092023-508.pdf, p. 128-129
[13] https://www.usda.gov/sites/default/files/documents/wfmmc-final-report-092023-508.pdf, p. 145-147

post-fire preparedness allows water providers and communities to better utilize this critical window between fire containment and the first post-fire rain event. Post-fire preparedness involves modeling potential hazards and anticipating vulnerabilities before a fire begins, which can help inform decision-making and increase the speed of post-fire project identification and implementation. Existing forest and wildfire management programs, such as the Joint Chiefs Landscape Restoration Partnership, can be modified to authorize post-fire preparedness planning and projects as allowable activities within these programs.[14]

My third and final message is that there is no silver bullet to address the wildfire challenge and subsequent impacts on water supplies. A comprehensive, long-term approach and sustained investment will be required.

The wildfire challenge in front of us today is the result of a century of fire exclusion. The wildfire challenge did not present itself overnight, nor can it be overcome overnight. A multifaceted approach supported by sustained investment and action will be required to better position our communities and ecosystems to live with wildfire.

A long-term approach to forest and wildfire management supported by leveraged investments has proved successful in protecting Denver Water's source water supplies. Our From Forests to Faucets partners continue to make significant investments in proactive forest management because we have seen these projects tested and result in positive outcomes on numerous occasions. In 2025 alone, three wildfire ignitions occurred within forest management projects funded by Denver Water. The forest management projects were conducted in 2003, 2014, and 2023, respectively. All three wildfires were able to be contained before any structures were lost or significant watershed damage occurred.[15] The foresight to invest in forest management projects decades earlier continues to benefit Denver Water and local communities.

While wildfire mitigation and recovery are often the aspects of wildfire that water providers are most invested in, a comprehensive and long-term approach to wildfire management will also require attention to wildfire response, the wildfire workforce, emerging science, data, and technology, as well as many other systems. I encourage the use of the Commission's recommendations as the foundation for addressing these other wildfire topics.

In closing, improving wildfire management systems presents a unique opportunity to influence the outcome of a pressing economic and ecological challenge. With stresses on water resources only growing, the importance of protecting the quality of our water supplies becomes even more paramount. Action by this body can substantially alter the outcome of the wildfire challenge. I want to thank you Chair Hageman, Ranking Member Hoyle, and members of the Committee for your time and leadership on this important issue.

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[14] https://www.usda.gov/sites/default/files/documents/wfmmc-final-report-092023-508.pdf, p. 148-149
[15] https://www.denverwater.org/tap/taking-wild-out-wildfires