

**Testimony of Bruce Hallin
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**Before the
House Committee on Natural Resources Subcommittee on Federal Lands
Hearing on “Federal Bureaucratic Roadblocks to Manage our Nation’s Overgrown
Fire-Prone National Forests”**

June 8, 2017

Chairman McClintock, Ranking Member Hanabusa and members of the Subcommittee, thank you for the opportunity to testify before you on “Federal Bureaucratic Roadblocks to Manage our Nation’s Overgrown Fire-Prone National Forests.” For more than a hundred years, the Salt River Project (SRP) has responsibly managed the water supply for the Salt River valley including efforts to protect the forested headwaters that provide the majority of the water for metropolitan Phoenix. Around the turn of the 20th century, watershed protection efforts centered on setting aside lands in the federal forest system to ensure development and timber harvest were conducted in a way that preserved a sustainable water supply for Arizona. Today, the unhealthy state of these forests has led to catastrophic wildfires that threaten not only the wildlife, recreational, and multi-purpose value of these forests, but also the reliability, sustainability and quality of drinking water for millions of Arizonans—protection of these values were the original intent of the formation of the National Forest system.

SRP is currently involved with several forest restoration efforts which have highlighted the need for federal action to accelerate the pace and scale at which forests are being restored to avoid the next catastrophic wildfire, and protect the multiple use values our forestlands provide, including protecting the water supply. The objective of these current efforts by SRP is to pursue projects that accelerate restoration by increasing the number of forested lands available for industry to harvest. However, offering a sizeable number of NEPA approved lands available for forest thinning has not proven to be the panacea fix to removing trees and reducing the threat of wildfire in Arizona. Instead, Forest Service business practices are outdated in relation to addressing the removal of low value timber. Budget constraints are inhibiting industry investment due to the uncertainty of an available wood supply. Outdated forest policies and an inability to provide creative solutions to basic problems creates inefficiencies that can impact the ability for industry to receive the supply certainty needed to invest profitably. Without a profitable forest products industry, thinning activities will flounder. Arizona needs more trees cut now. We need the forest service to work with industry in a collaborative fashion to develop policy solutions that jointly benefit industry and the Forest Service. Delayed action further increases the likelihood of another catastrophic fire that will damage our national forests and watersheds, ecosystems, and rural communities for decades. Arizona’s watersheds have been severely impacted by two of the largest wildfires in recent history— without action, it is only a matter of time until another Rodeo-Chediski fire or Wallow fire threaten the state.

Salt River Project

SRP is composed of the Salt River Valley Water Users’ Association (“Association”) and the Salt River Project Agricultural Improvement and Power District (“District”). Under contract with the United States, the Association, a private corporation authorized under the laws of the Territory of Arizona, and the District, a political subdivision of the State of Arizona, provide water from the Salt and Verde Rivers to approximately 250,000 acres of land in the greater Phoenix area and

electrical power to more than 1,000,000 customers. Over the past century, most of these lands have been converted from agricultural to urban uses and now comprise the core of metropolitan Phoenix.

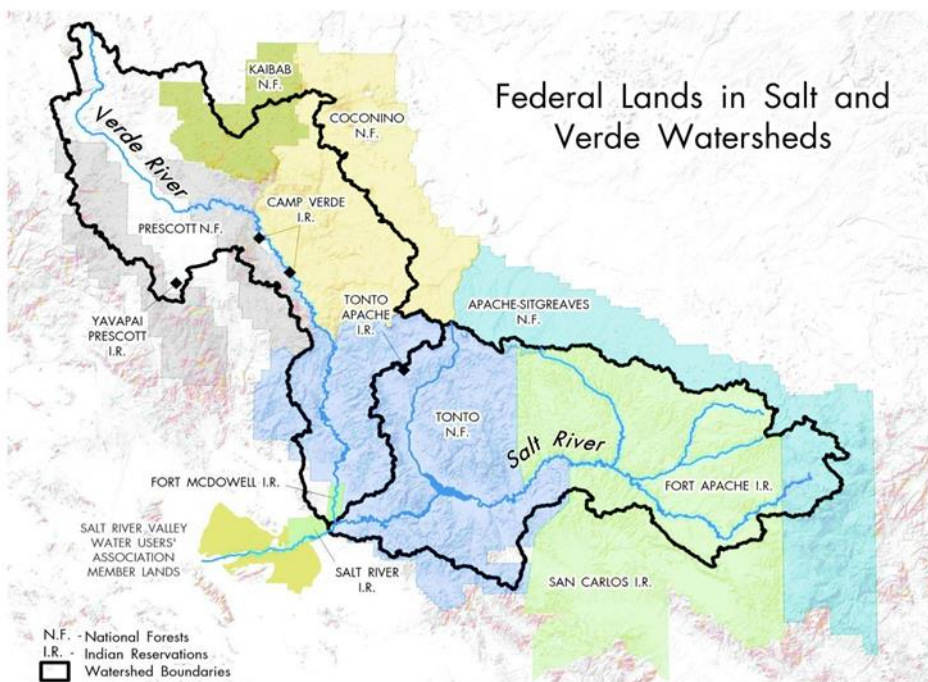
The Association was organized in 1903 and the landowners of the Salt River Valley partnered with the federal government for the building of Theodore Roosevelt Dam, located some 80 miles northeast of Phoenix. SRP was the first multipurpose project approved under the Reclamation Act of 1902. In exchange for pledging their land as collateral for the federal loans to construct Roosevelt Dam, which loans have long since been fully paid, landowners in the Salt River Valley received the right to water stored behind the dam.

SRP now operates six dams and reservoirs on the Salt and Verde Rivers in the Gila River Basin, one dam and reservoir on East Clear Creek in the Little Colorado River Basin, 1,300 miles of canals and laterals, groundwater wells, and numerous electrical generating, transmission and distribution facilities. The seven SRP reservoirs impound runoff from multiple watersheds, which is delivered via SRP canals, laterals and pipelines to municipal, industrial and agricultural water users in the Phoenix metropolitan area. SRP also operates approximately 270 deep well pumps to supplement surface water supplies available to the Phoenix area during times of drought. In addition, SRP provides power to over 1 million customers in the Phoenix area, as well as other rural areas of the State.

SRP Watershed

Since the end of the nineteenth century, farmers and residents of the Salt River Valley have been integrally involved and interested in the management of the Salt and Verde watersheds. Although the Valley's involvement with the forested land has changed over the decades, the

interest has remained constant due to the watersheds' vital role in producing water for the Valley.



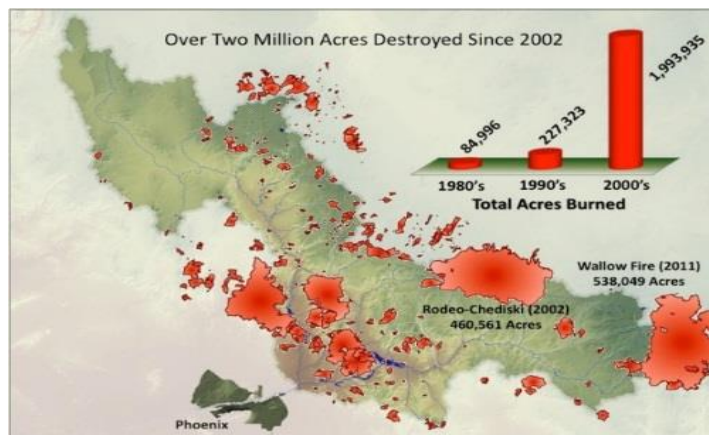
In 1891 and 1897, the U.S. Congress passed legislation enabling the federal government to set aside forests to help preserve the nation's water supply for future generations. In 1897, the Arizona Territorial Legislature wrote to Congress and stated, "The forests on these water-sheds [Salt and Verde]... are in great danger of being entirely removed by settlers and

large lumber companies to the great detriment of our water supply." Over the next decade, National Forests were created primarily to protect the watershed above Theodore Roosevelt Dam and to protect the watershed along the Verde River. In 1901 the *Arizona Republican* touted the designations by saying: "Protection to the magnificent forest and the conservation of

the waters that feed the Verde and Salt Rivers. The value of this action to the people of the Salt River valley cannot be overestimated.” Today, 59% of SRP’s 13,000-square-mile watershed lies within national forests as part of a plan to provide a renewable water supply for the Valley. The hydrologic values associated with healthy forests were recognized by the federal government during the early part of the 20th century, and was the underlying reason most forest lands were set aside in Arizona; for the protection of the water supplies used in the Salt River Valley.

Risk & Impact of Inaction

As the last three decades have proven, failure to take action to better manage and restore forested lands have resulted in more and larger fires. The growing size and impact of wildfires on SRP’s watershed can be clearly seen in the included graphic. In the 1980’s just under 85,000 acres in the watershed burned and a 5,000-10,000 acre wildfire was considered very large. In the 1990’s the total acres burned grew to about 227,000, and since 2000 nearly 2 million acres have burned, with two fires alone consuming nearly 1 million acres.



Deteriorating forest health and catastrophic wildfires also impact the hydrologic characteristics of watersheds. Runoff and water yield, peak flows and low flows, erosion and sedimentation, and water temperature and chemistry are all negatively impacted by unnatural forest conditions and severe wildfires.

Water Supply and Storage

Unhealthy forests and catastrophic wildfires affect the short and long term management and sustainability of our water supply. The timing and characteristics of runoff, reservoir storage capability and water yield are being adversely impacted by the state of our forests and the recent mega-fires that continue to occur on the watersheds.

In Arizona and throughout the west, reservoir storage is a critical component of water supply and drought management. Dams are typically designed to have a specific useful life with storage capacity gradually decreasing as sediment carried by the streams and rivers discharge into the reservoir. Catastrophic wildfires, unlike the low intensity fires seen in healthy forests, cause burn areas that devastate the landscape and produce increased loads of sediment, ash and debris causing reservoirs to fill up faster and reduce the life and storage capacity of reservoirs. The loss of trees and groundcover from wildfire may also affect the timing and behavior of runoff, impacting the predictability and operations of water supply.

Recent SRP Forest Restoration Activities

Cragin Watershed Protection Project

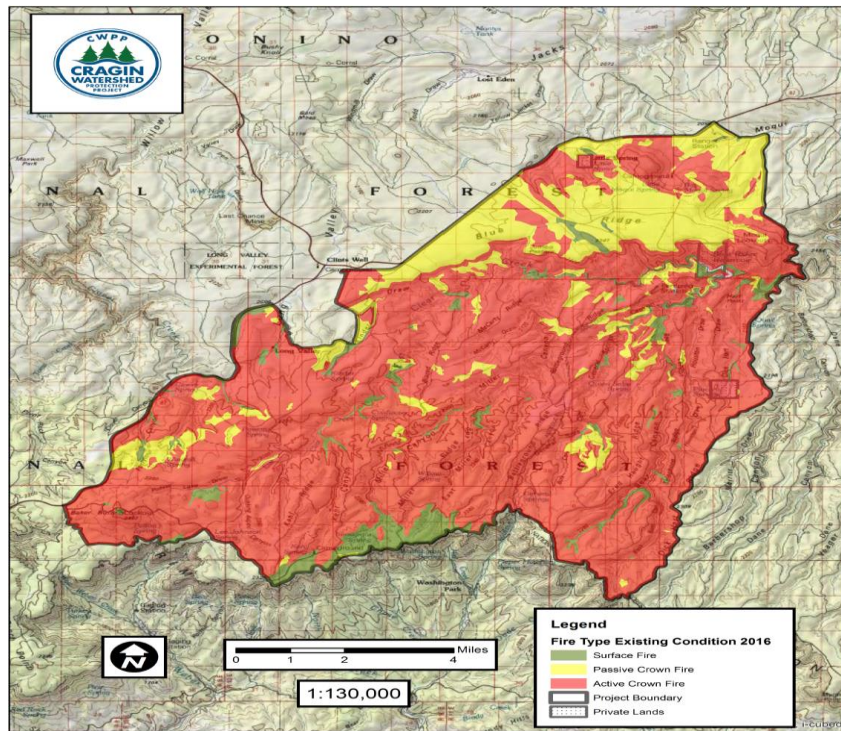
The C.C. Cragin reservoir is a 15,000 acre foot reservoir in Coconino County, AZ. The reservoir serves as a water supply to SRP and as the sole renewable surface water supply to the Town of Payson and several other small communities in northern Gila County, AZ. Heavily forested and steep walled watersheds have characteristics that amplify the impact of sedimentation due to wildfire. The C.C. Cragin watershed is one such circumstance and is especially at risk of significant decrease of capacity from a single wildfire. Due to the pumping facilities required to move water from the C.C. Cragin reservoir to end-users, an influx of sediment following wildfire could clog pumping intakes and render the supplies inaccessible to the small communities who depend on the supplies.

The entire Cragin watershed encompasses approximately 64,000 acres. Virtually the entire watershed is forested land categorized as at high risk to active crown fire. A 64,000 acre fire is small when compared to fire size over the past decade. SRP, in partnership with the Forest Service, Town of Payson, Bureau of Reclamation and the National Forest Foundation, has made the Cragin forest restoration effort a priority project to immediately reduce the forest fuel load through mechanical thinning. Priority focus remains high by the partnership on the Cragin watershed project, but due to a lack of industry infrastructure, remote location of the watershed and administrative requirements to implement projects, Cragin is proving to be a challenging project.

Lack of communication between layers of management within the Forest Service has continued to constrain the pace of the planning process. Though the watershed has been prioritized under the USDI and USDA Western Watershed Enhancement Partnership and has funding and attention from the private sector, the project continues to progress at a snail's pace. Despite the use of the authorities provided by the 2003 Healthy Forest Restoration Act to simplify the environmental planning work, the timeline for completion of the environmental planning work has continued to be extended with limited explanation. A broad group of stakeholders and cooperating agencies have recognized the importance of fast-tracking the environmental planning process to expedite the reduction of fire-risk to this important municipal watershed. Despite the collaborative and broad-based support for the project, the Forest Service as an agency lacks the ability to move swiftly and work cooperatively. Top-down direction and bottom-up support for innovation and collaboration is necessary for expediting the processes necessary to reduce fire risk. Public-private partnerships (P3s) are necessary to address the magnitude of the liabilities created by overgrown public lands—The Federal Government cannot do it alone. Successful P3s for forest restoration will require the Forest Service to adapt its practices and culture to that of industry, rather than requiring industry to adapt to the inefficient, bureaucratic and difficult nature of the agency.

In an effort to create efficiency gains for the project, the partnership initiated an economic analysis to identify project implementation cost structure and potential cost-saving treatment practices. The result of the analysis indicates a net-cost project loss under all scenarios based on current Forest Service operating procedures. Arizona's forests are replete with low-value woody material, referred to as biomass, with little existing market utilization capacity. This "waste" material is the fuel load that needs to be removed in order to reduce the risk of catastrophic wildfire to the forest ecosystem

The existing physical and economic condition of the restoration business model is marginal even when the high transaction cost of working with the Forest Service is removed. The challenges faced in the C.C. Cragin watershed extrapolate well to other forested watersheds throughout the west. Without significant revision to current Forest Service procedures and policies in addressing Cragin’s challenges, the probabilities are high that the forests will burn before forest treatments are completed. In the end, a large portion of the financial impacts following the fire will be borne by the local stakeholders and the State should there be a lack of timely action by the federal government.



The risk burden of catastrophic fire needs to be equally shared between local stakeholders and the federal government as landowner and steward of these lands.

Coronado Generating Station Biomass Test Burn

Biomass is the largest wood fiber by-product of forest restoration efforts. Between 35% and 65% of the fiber by weight removed from each restored-acre is categorized as biomass. Biomass is also the lowest value by-product. Consisting of portions of the trees harvested that are less than six inches in diameter, the term biomass generally refers to the tops, branches and needles of the tree, as well as the entirety of very small trees. To finance the restoration of the millions of acres of forest in need, value-added products must be made from the wood fiber removed from the forest. Achieving good production capacity in Arizona is imperative due to the low value of the fiber removed from the forest relative to transportation costs. Value-added products must be produced close to restoration areas before exporting to end users in order to produce transportation efficiencies. Without a viable market use for biomass, economic barriers will prevent the expansion of the scale of restoration practices. Case in point, the Forest

Service's Four Forests Restoration Initiative (4FRI) has shown restoration activities to hover around 15,000 acres per year for the last several years, less than one third of 50,000 acre per year goal of the restoration efforts in Arizona. In the first seven years of 4FRI restoration efforts, 93,000 acres have been restored, just over a quarter of the expected 350,000 acres.

Exploration of market tested biomass utilization practices showed very few options that could utilize the biomass to the scale planned in Arizona. In fact, the majority of Arizona's existing 15,000 acre utilization capacity comes from NOVO Biopower, for which SRP has a Power Purchase Agreement (PPA) in place. To expand Arizona's biomass utilization capacity and accelerate the pace of forest restoration on SRP's watersheds, SRP initiated a biomass test burn at its Coronado Generating Station (CGS). The test introduced a variable blend of biomass into the existing coal fuel stream to evaluate the feasibility of the facility co-firing a small percentage of biomass with its existing coal supply to create a market driven demand for restoration. Initial estimates showed that Arizona's biomass utilization capacity could be effectively doubled if CGS could utilize biomass at a 5% mix.

Test burn results revealed that operation with up to a 3% biomass mix was feasible, although there were operational challenges that will need to be addressed for safer, more reliable operation. Above a 3% mix the fuel delivery system could not operate reliably or safely without significant upgrades. SRP will continue to analyze the impacts of long-term operations at CGS to evaluate whether or not the generating station can be part of the solution to the existing biomass bottleneck in the 4FRI efforts to restore Arizona's ponderosa pine forests.

The test also aimed to gather information on the supply chain of harvesting, processing and transporting biomass from active restoration sites in northern Arizona to CGS. During the development of the test, the State of Arizona showed interest in understanding the biomass supply chain in northern Arizona. A biomass source on State Trust land and City of Flagstaff land were chosen. Both provided a suitable ponderosa pine material for the test, as well as an opportunity to gather transportation cost information for moving the low-density material long distances.

Costs associated with transporting, processing and handling the biomass material at CGS were somewhat higher than the costs of transporting, processing and handling coal at CGS. While biomass is not a fuel of choice at CGS, and is not cost competitive as a fuel source when compared to other fuel options, viable options for removing the large quantity of biomass in Arizona's forests are immediately needed to avoid the astronomical costs of the next wildfire. It is essential that these cost risks are shared with federal land, water and ecosystem management agencies whose interests and assets benefit from reducing the disastrous impacts of wildfire.



Opportunities to Accelerate Restoration

Currently in Arizona there are approximately 537,000 acres of NEPA-cleared forest land available for mechanical thinning. From a NEPA perspective, these lands have been legally accessible for over two years with little to no progress of thinning. Administratively burdensome processes and outdated forest policies have stymied the pace of restoration. Lack of guaranteed supplies in the long-term and lack of faith in the Forest Service from the market has hindered capital investment and contributed to inhibiting any meaningful growth to a more robust forest products industry. Estimates show that reaching the restoration goal of 50,000 acres per year would produce an annual gross domestic product greater than \$115 million and an estimated \$20 million in payroll. For rural Arizona, this missed opportunity continues to hinder the economic viability of the region.

A Business Minded Approach is Key to Achieving Healthier More Resilient Forest and Watersheds

Providing the proper economic structure to attract capital investment will result in an expanding forest products industry in the rural communities of Arizona, creating much needed jobs and economic development opportunity. The low value timber in Arizona requires that the Forest Service revise business policy and place the value emphasis on the restored forest and not the value of the timber. Discussions have begun between stakeholders and the Forest Service on areas of improvement and where policy can be revised to improve business practices and improve efficiencies. The Forest Service has recently drafted a 2017 4FRI Strategic Plan that identifies various strategies and objectives on accelerating forest restoration treatments and improving business practices. Based on SRP's ongoing working experience and partnership efforts with the Forest Service, here are suggestions that need immediate consideration and areas of concern that need to be addressed:

- Due to the magnitude of the restoration issue, resource and budget limitations and outdated business practices, the Forest Service is unable to plan and implement restoration on



their own. The Forest Service must now develop, retain and grow partnerships with private partners who can provide the urgency and willingness to accelerate the pace and scale of forest restoration in western National Forests. This will require support from all levels within the agency.

- The current approach asks the business community to take on all the risk associated with thinning activities, with no guarantee on wood availability—an impossible business model.
- Strategic public-private partnerships that recognize the value in restoration, rather than just the value of the wood, and share costs and risk across sectors are necessary to change the course of existing forest and watersheds conditions.
- Federal agencies need to align with partners and “think like, and operate at the pace of business” to remove barriers within the existing bureaucratic procedures.

Administrative and Policy Barriers need to be Revised and Removed to Achieve Healthier, More Resilient Forests and Watersheds

- The environmental planning process required to permit restorative actions on Federal Lands has become complicated by lengthy judicial reviews that can slow restoration to a standstill. This process has become so complicated that no single person at the Forest Service seems to have a good grasp on the entire process—a problem that makes it impossible to think strategically.



- A more streamlined approach for analyzing and approving restoration in key municipal and agricultural watersheds is desperately needed. Considering only the action and no-action alternatives in any EA or EIS and making available more acreage for categorical exclusion are needed reforms.
- Longer term contracts beyond the current 10 year policy are necessary for industry to recover large capital investments in a low profit margin industry.
- High turnover within the Forest Service creates long-term uncertainty in local policy and management direction for partner and other stakeholders.
- Biomass is a waste product and should be treated as such by the federal government. Incentives and new policies are needed for biomass removal and processing.
- Immediate support is needed for alternative management practices that reduce forest restoration implementation costs. A few examples include:
 - Reducing the amount of biomass harvested;
 - Allow a longer drying period for biomass;
 - Increasing road weight limits for trucks transporting timber and woody material from the forest;
 - Pursue the use of processing yards on Federal Lands located near harvesting sites to increase product processing efficiencies;
 - Embrace and encourage the adoption of innovative implementation and site preparation practices and technologies that lower costs and increase efficiencies.

Conclusion

Without a significant increase in the number of acres treated through forest restoration, the continued values that our National Forests provide for wildlife habitat, recreational opportunities, ecological protections, rural economy support and ensuring an available clean water supply will be lost. Arizona is in a unique position where there exists universal support for the objectives of 4FRI to improve the health of over 2.4 million acres of the largest contiguous stand of ponderosa pine forest in North America. This national treasure is at risk of being destroyed by catastrophic wildfire due to a host of poor management practices over the past few decades.

The challenges of 4FRI are daunting for the Forest Service but not insurmountable. However, the current structure of the Forest Service lacks the necessary skills, resources and business acumen to successfully attract industry capital investment that will increase the pace and scale of forest restoration projects. Arizona has over 500,000 acres of forested land that is NEPA-ready and legally available for mechanical thinning. This represents significant opportunity for hundreds of well-paying jobs that will bolster economies of many rural communities in Arizona. Strategic partnerships are needed today with other private, State, and non-governmental organizations that are more proficient and possess the necessary tools in attracting business investment, overseeing project implementation, and assisting with restoration oversight. The risks facing Arizona's forests require immediate action to accelerate forest treatments. Recent history has shown that the Forest Service is struggling with how to increase capacity when faced with resource constraints, outdated forest management policies and a business model that does not accommodate the private sector that is needed for harvesting the low value timber.

The year 2017 is a significant year for SRP. We are celebrating a centennial of service to our water and power customers. In 1917 the federal government took a courageous step by maintaining title ownership to the project facilities but turned over all the project operations to SRP. SRP became the first reclamation project in the U.S. to assume full operations and maintenance of a federal reclamation project water system by the end users. This lasting partnership between SRP and the federal government was instrumental in supporting the development of Arizona and spawning the nation's fifth largest city, Phoenix. Upfront investment by the federal government to a group of landowners that shouldered the risk of paying off the project, and assumed operations of the water and power system, is a leading example of a highly successful public-private partnership; a partnership that has not only benefitted local stakeholders but has provided significant return on the federal government's investment in the original project works. This unique partnership has withstood the test of time. The commitment and relationship between the partners continue to remain strong. As we move forward today in addressing the significant challenges of thinning our national forest lands, consider the success of the federal government's investment and partnership with a group of landowners over a century ago. Forest restoration in Arizona can replicate this same success by embracing a partnership approach that recognizes limitations of the federal government, incentivizes more control to local stakeholders, accepts the need for investment, and shares in the benefits and risks---all of which has resulted in a very successful partnership between SRP and the federal government over the past 100 years.

SRP and multiple partners in the conservation, forest products, academia and government sectors remain committed to taking every step as quickly as possible to accelerate restoration activities to protect Arizona's forests, communities, and watersheds. Thank you again for the opportunity to testify before you today and for your continued efforts on this critical issue.