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**Testimony for the Hearing Record U.S. House of Representatives**
**Committee on Natural Resources Subcommittee on Water, Oceans and Wildlife**

**Oversight Hearing**
***"Colorado River Drought Conditions and Response Measures – Day Two"***

**October 20, 2021**

Chairman Huffman, Ranking Member Bentz, and Members of the Subcommittee:

On behalf of the Family Farm Alliance (Alliance), thank you for the opportunity to present this testimony today on the catastrophic drought conditions in the Colorado River Basin and related response measures. My name is Pat O'Toole, and I have served as President of the Board of Directors of the Alliance for over 16 years.

## About the Family Farm Alliance

The Family Farm Alliance (Alliance) is a grassroots organization of family farmers, ranchers, irrigation districts, and allied industries in 16 Western states. We are committed to the fundamental proposition that Western irrigated agriculture must be preserved and protected for a host of economic, sociological, environmental and national security reasons – many of which are often overlooked in the context of other national policy decisions. The American food consumer nationwide has access to fruits, vegetables, nuts, grains and beef throughout the year largely because of Western irrigated agriculture and the projects that provide water to these farmers and ranchers.

## Personal Background and Experience with Colorado River Challenges

I have served on the Family Farm Alliance's Board of Directors since 1998 and was named as the organization's President in 2005. I am also a former member of Wyoming's House of Representatives. I presently serve on the board of directors of Solutions from the Land and work closely with both the Intermountain Waterfowl Joint Venture and Partners for Conservation.

My family has a strong background in irrigated agriculture and our 140-year-old ranch (Ladder Ranch) is located near Savery, Wyoming. Our family raises cattle, sheep, horses, dogs and children. My family and Ladder Ranch were the recipients of the distinguished 2014 Wyoming Leopold Environmental Stewardship Award. Our ranch straddles the Wyoming-Colorado border at the headwaters of the Colorado River, which has long afforded me the opportunity to view some

unique water issues first-hand. I have personally testified before Congressional committees several times, and Alliance representatives have testified before Congress nearly 90 times since 2005. We've seen the ups and downs and the volatility of weather and the changing climate—now it's clear that the cycle of life has been disturbed.

## Overview

This testimony focuses on this year's drought – an unprecedented disaster for many farmers and ranchers, their families and rural communities across the West. The Colorado River Basin is in its 21st year of drought and its reservoirs will end up at their lowest levels since they were initially filled. Central Arizona farmers are bracing for water cuts resulting from the first ever shortage declaration, and the most recent modeling shows increasing risk of reaching additional critical levels at Lakes Powell and Mead. The drought impact on Western irrigated agriculture is not limited to the water, either. Reduced hydropower generation and the high cost of replacement power is threatening to cause double digit percentage power cost increases to many farmers and non-agricultural users. In the midst of the numerous challenges caused by the ongoing drought, efforts are underway to renegotiate new operating guidelines in advance of the expiration of the "Interim Guidelines for the Lower Basin Shortages and the Coordinated Operation for Lake Power and Lake Mead (Interim Guidelines)" in 2026.

The Family Farm Alliance developed additional written testimony on impacts that are facing our water and power users in the Colorado River Basin, which was submitted for the record at your October 15, 2021 hearing. I have been asked to testify on my involvement with forest and watershed health activities in the Upper Colorado River Basin, and to convey the position of Family Farm Alliance members throughout the West on the importance of actively managing to restore our critically important Western forested watersheds.

## The State of Western Forests

As the "endless summer" of 2021 came to an end, wildland firefighters continued to work toward containment of 63 large fires and complexes that have burned more than 3.1 million acres in the Western United States, according to the National Interagency Fire Center (NIFC). So far this year, over 46,000 fires in the West have charred more than 5.8 million acres, slightly lower than the 10-year average at this time of the year.

The number of acres burned by wildfire in the U.S. last year- 2020 - broke a modern record, according to data published by the NIFC, as extreme heat and dryness fueled major conflagrations across many populated areas in the West. Wildfire burned over 10.3 million acres in 2020, breaking the calendar-year record of 10.1 million acres, set in 2015. From August through October 2020, the most extreme conditions caused thousands of evacuations, homes and structures lost, and tragic fatalities of 11 people in Oregon and 34 people in California. Last year marks the third year that wildfire has burned more than 10 million acres in the U.S., according to fire center records going back to 1983. All three of those years have been since 2015.

Increasingly fierce Western wildfire disasters are becoming an annual occurrence and underscore the importance of improving on-the-ground vegetation management actions that can lead to improved forest health. Improving the condition of our nation's forested lands is of primary importance to water providers. National Forest lands are overwhelmingly the largest, single source of water in the U.S. and, in most regions of the West, contributing nearly all the water that supplies our farms and cities. In addition, our already fragile water infrastructure can be severely damaged or rendered useless by fire and post-fire flooding and debris flows. Burned areas hold no water at all, leading to floods, erosion, and mudslides. It also increases turbidity in the streams flowing through our watersheds. The unhealthy state of our national forests, which were initially reserved specifically to protect water resources, has led to catastrophic wildfires that threaten the reliability, volume, and quality of water for tens of millions of Americans, along with the wildlife, recreational, and multi-purpose values of these lands.

Our great Western forests are damaged and diseased. This came about through a perfect storm of neglect, misguided litigation, lack of use of science, strained management budgets, and, of course, climate change. We can have no doubt that the West is warming, and some places are warming more rapidly than past modeling has predicted. Insect outbreaks have weakened and killed trees. Violent winds have brought these trees down providing an abundant source of fuel. Drought and forests cluttered with dead fall timber serve as a tinderbox for increasingly intense and devastating fires. Our National Forests in the Rocky Mountain Region are suffering from climate-driven lack of function. The inability to develop a logical management strategy has led to these consequences: catastrophic fires, lack of wildlife habitat and critical interruption of our water supply.

## Challenges

Today's wildfires are often larger and more catastrophic than in the past. Some of the blame can be attributed to climatic conditions, like reduced snowpack in alpine forests, prolonged droughts and longer fire seasons. Western population growth has also played a role, since we now have more homes within or adjacent to forests and grasslands. However, decades of fire suppression and inability to manage our forests through controlled burns, thinning, and pest/insect control probably play an even bigger role. Where California now has about 100 trees per acre, it once had about 40 trees / acre.

Much of the recent media coverage on the fires raging in Northern California has featured commentary from politicians, environmental activists and academics who point to climate change as the driving factor behind the fires that have forced tens of thousands of Westerners to flee their homes. Climate change concerns may certainly be shared by some rural Westerners who live in once-thriving timber dependent communities. However, there is also a growing frustration that forest management – or rather, the perceived lack of management by federal agencies, driven in part by environmental litigation – fails to get the attention it deserves in many media accounts of the current Western wildfire infernos.

Some of us who live in rural Western communities who have watched the condition of federal

forests deteriorate in recent decades have a different perspective. We have witnessed how federal forest management actions have been hampered in recent decades, in part due to environmental lawsuits initiated by certain activist groups. We encourage the Subcommittee to listen to the men and women on the ground regarding the urgency of implementing forest restoration and management.

**National Environmental Policy Act (NEPA) Processes Associated with Forest Health**

The U.S. Forest Service (Forest Service) is not fully meeting agency expectations, nor the expectations of the public, partners, and stakeholders, to improve the health and resilience of forests and grasslands, create jobs, and provide economic and recreational benefits. The Forest Service spends considerable financial and personnel resources on NEPA analyses and documentation, as well as environmental litigation.

In recent years – catalyzed by the ominous increase in Western wildfire activity – we have worked with other organizations, seeking ways to discourage litigation against the Forest Service relating to land management projects. We have supported efforts to develop a categorical exclusion (CE) under NEPA for covered vegetative management activities carried out to establish or improve habitat for economically and ecologically important Western species like elk, mule deer, and black bear. Thus, we have advocated for expediting and prioritizing forest management activities that achieve ecosystem restoration objectives.

Reforming the Forest Service's NEPA procedures is needed at this time for a variety of reasons. An increasing percentage of the Forest Service's resources have been spent each year to provide for wildfire suppression, resulting in fewer resources available for other management activities, such as restoration. In 1995, wildland fire management funding made up 16 percent of the Forest Service's annual spending, compared to 57 percent in 2018. Along with a shift in funding, there has also been a corresponding shift in staff from non-fire to fire programs, with a 39 percent reduction in all non-fire personnel since 1995.

Additionally, the Forest Service in 2019 had a backlog of more than 5,000 applications for new special use permits and renewals of existing special use permits that are awaiting environmental analysis and decision. On average, the Forest Service annually receives 3,000 applications for new special use permits. Over 80 million acres of National Forest System land need restoration to reduce the risk of wildfire, insect epidemics, and forest diseases[1].

**Forest Management Impacts on Upper Watershed Water Supplies**

It is hard to overstate the importance of snowmelt as a source of fresh water in parts of the Rocky Mountain West, and great attention is paid to ecosystem water cycles in this region. Some of the snow that falls in the mountains goes directly from crystalline snow to water vapor, bypassing the

[1] Federal Register Doc. 2019-12195 Filed 6-12-19

liquid water phase. This phenomenon – sublimation – accounts for the loss of a large portion of the snowfall during the winter months in the Rocky Mountains. Snow intercepted by tree branches sublimates the fastest, often disappearing within a few days of a snowfall. Recently published work by the Rocky Mountain Research Station[2] (RMRS) teases apart how the loss of spruce canopy affects the sublimation rates for snow both in the canopy and on the ground in these ecosystems. These findings have some important implications to snow interception and retention.

Two years ago, I testified before the Senate Energy and Natural Resources Committee, where I referenced the Forest Service's figure that 160,000 acre-feet (AF) of water is not going into the Platte River system because of invasive species such as the pine beetle. The study I referenced relates to research[3] conducted by the Forest Service on the Upper North Platte River in 2000 and 2003. It shows that management restricting timber harvest had already severely impacted the watershed and water yield to the tune of a minimum of 160,000 AF[4] per year. The Forest Service uses Equivalent Clear-cut Acres modeling to predict water yield associated with vegetation disturbance, primarily associated with timber harvest and wildfire. The literature and research show that implementing a 100-year rotation on all eligible timber lands would sustain an increase of 50-55,000 AF of water per year – for just one part of one forest in the state of Wyoming.

In focusing on opportunities in Wyoming, it is important to provide context for what is happening in the West because lessons learned across the region has application in Wyoming. For example, across the West, federal laws, regulations and environmental litigators have greatly restricted our ability to thin forests and take other actions to aggressively combat invasive insects like the pine beetle. As a result, large swaths of national forest lands essentially remain "un-managed". In some places, all you can see for miles is a sea of dead trees, victims of the pine and spruce beetles.

Overgrown Western forests also means forests are using more water than they did historically. Because the moisture content of the trees and brush is so low, it makes them more vulnerable to fire and parasites, such as the bark beetle, which has ravaged millions of acres throughout the West. The Western wildfire disasters have underscored the importance of improving on-the-ground management that can lead to improved forest health. Thinning out trees can reduce water stress in forests and ease water shortages during droughts. By reducing the water used by plants, more rainfall flows into rivers and accumulates in groundwater. If we could calculate potential water yield impacts with even more confidence, we could determine how much water could be freed up by thinning forests and controlling pests and invasive insects like the pine and spruce beetle. Fortunately, we are seeing more recent, positive developments towards this end.

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[2] Beetle Outbreaks in Subalpine Forests and What They Mean for Snowmelt, May 2021. Rocky Mountain Research Station, U.S. Forest Service.

[3] Estimating Additional Water Yield From Changes in Management of National Forests in the North Platte Basin, May 12, 2000, C.A. Troendle & J.M. Nankervis (Note: This is an independent report prepared for the Platte River EIS Office)

[4] 160,000 AF of water would cover all of Chicago, Illinois with over one foot water.

Examples described below provide additional models for ways of quantifying the amount of water removed from Wyoming's water supply by dying forests and invasive species like the bark beetle.

Scientists affiliated with the National Science Foundation (NSF) Southern Sierra Critical Zone Observatory (CZO) in 2018 conducted a study in the forests of California's Sierra Nevada mountains. The team of scientists from the University of California and the National Park Service combined sensors that measure evapotranspiration with satellite images of "greenness" on the landscape to estimate the additional freshwater runoff that could be created by thinning overgrown forests. Their research, published in 2018 in the journal *Ecohydrology,* shows that water loss from evapotranspiration has decreased significantly over the past three decades, due in large part to wildfire-driven forest thinning. Forest thinning has increased in recent decades to stave off disastrous wildfires fueled by dense forests. This study shows that restoring forests through mechanical thinning or prescribed burning can also save California billions of gallons of water each year. The total effect of wildfires over a 20-year period suggests that forest thinning could increase water flow from Sierra Nevada watersheds by as much as 10 percent.

We have also heard numerous other anecdotal reports from around the West of water yield increases resulting from clearing pinon and juniper stands in northwestern Utah, arid communities in the high desert of Oregon and Northern California, the Pecos River watershed in New Mexico and the upper Purgatoire River in eastern Colorado. Pinon and juniper reduction in the Gallup, New Mexico area triggered the reappearance of flowing water in once dry arroyos that had not been there for decades. A 2016 study[5] conducted on the San Carlos Apache Reservation showed that different vegetation types displayed various responses to water availability. This further highlights the need for individual management plans for forest and woodland, especially considering the projected drier conditions in the Western U.S.

## Solutions

Regardless of the causes behind the sad state of our forests, it is our job now to look for solutions. These solutions will be applied through specific and thoughtful management. The problem involves a natural landscape, so some of the solutions will be time-tested natural processes. Others will be driven by landowners and forest managers through proactive, aggressive actions. The neglect and deterioration of our forests cannot continue. We must act now to heal them. We offer below the recipe for success.

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[5] Vegetative response to water availability on the San Carlos Apache Reservation, Roy Petrakis, Zhuoting Wu, Jason McVay, Barry Middleton, Dennis Dyem, JohnVogel. July 2016. U.S. Geological Survey, Western Geographic Science Center, 255 North Gemini Drive, Flagstaff, AZ 86001, USA.

## 1. Actively Manage and Restore our Federal Forests

Drought brings less snowfall in many areas. The snow that falls melts off up to 45 days earlier and runs off downstream on frozen ground. Therefore, the snowpack no longer functions as a reservoir delaying the release of water in a timely manner. However, the forest floor can be restored through thoughtful management. A responsible level of continuous fuels reduction includes a combination of robust mechanical thinning and prescribed fire. This can be employed to significantly reduce evapotranspiration, tree stress, disease, and pest infestation, preserve health forest conditions, and protect species and habitats.

This is not only good stewardship – it is good economics.

Failure to employ this approach will continue the downward, accelerating spiral of fuel accumulation, drought, disease, and invasive insects. This will lead, inevitably, to additional high-intensity and costly fire events in the future.

We believe active forest management can increase water yield, improve water quality, provide for jobs, and reduce the cost of firefighting, while increasing forest resiliency. This can be done, in part, by increasing the productivity of national forests and grasslands; employing grazing as an effective, affordable forest and grassland management tool; increasing access to national forest system lands; expediting environmental reviews to support active management; and designing West-wide studies to quantify water yield.

### a. Use Controlled Fire and Grazing as Management Tools to Restore Forests

Wildlife habitat has suffered profoundly from the "pick-up-sticks" of dead trees on the forest floor, from disruption in water function, and most dramatically, from widespread hot fires. These large catastrophic fires not only eliminate habitat, but kill millions of animals, birds and insects. Controlled fire is one of the tools that can be used to improve forest grounds. However, it is not the only tool. A recent article in the Sacramento Bee ("'Self-serving garbage.' Wildfire experts escalate fight over saving California forests") does a nice job explaining this. We are seeing a major shift happening; the people who love the forest are coming together.

The Organic Administration Act of 1897 (Organic Act) addresses the role of the forests as part of a larger community—a larger and complex landscape. They do not exist in a vacuum. Forest grounds were intended to produce timber for Americans. We have seen the terrible effects of the near halting of the timber industry. Foresters know how to log in a responsible and sustainable manner. When done properly, it is one of the most effective tools to restore forest health. The alternatives are unregulated logging in other parts of the world and sky-high lumber prices. Sustainable timber management is a practice that must be encouraged and facilitated.

Likewise, the forests are part of our food production system. The grasslands existing in forest lands sustain not only grazing wildlife like deer, elk, big horn sheep, and antelope, but also forage for

domestic livestock like cattle and sheep. Proper grazing improves soil through hoof actions and fertilization from manure. Grazing returns carbon to the soils and is a tool, indeed almost the only tool, for improving and restoring soils. Again, it must be properly managed, but many graziers are experts in just those practices. Narrow policy proposals that disconnect the role of responsible grazing, or even seek to eliminate this practice, from grassland function will result in cascading impacts to habitat connectivity, soil health, wildlife habitat, and carbon sequestration. These actions will also create added strain on rural communities.

b. Secure Long-Term Conditions of Water Flows

"Securing long-term conditions of water flows" is named as a top priority in the Organic Act, yet it is perhaps the most severely impacted by the deteriorated forests. The forests act as a sponge. Winter snowfall settles among the trees, and snowmelt and rainfall alike traditionally soak into the humus and healthy soils on the forest floor. Climate change and human mismanagement have disrupted this crucial cycle.

In the Intermountain West, flood-irrigated wet meadows provided by ranchers as part of their agricultural operations comprise the bulk of the wetland habitat in snowpack-driven systems. These hay meadows and irrigated pastures provide important habitat for sandhill cranes, white-faced ibis, northern pintails, and other priority waterbirds, as well as an array of ecosystem benefits. Flood irrigation naturally maintains underlying groundwater that is less vulnerable to a warming climate and key to supporting seasonally flooded wetlands on the surface. Filling these "sponges" through flood irrigation is critical to slowing the movement of water through the system and thus increasing resiliency in the face of drought. Likewise, upland watershed and forest management activities can help increase water quality and quantity, as well as mitigating the risk of catastrophic wildfire.

Restoration – utilizing what I refer to as "AgroForestry" - is very doable. It will require planning, resources, commitment and will. All of these things exist.

c. Improve Watershed Yield Through Better Forest Management

As previously discussed, there is a significant gain in water supply to streams because the consumptive use of water is reduced when the number of trees growing as forests are managed to avoid the conditions that result in catastrophic insect infestation or wildfires. We believe the North Platte River example noted above should be used as a solid starting point for a case study because of the abundance of available scientific literature, including the work already developed by the Forest Service. Improved water yields also have positive implications for downstream Platte River species protected by the Species Act. Congress could help initiate a pilot project that builds upon this work. In addition to underscoring the positive aspects of active forest management noted above, such a study could also underscore the importance of appropriately measuring any new water gained through this and other water enhancement approaches. Generating new water through

landscape management practices should become a new priority in the Colorado River watershed and other parts of the American West.

d. Improve Invasive Species Management

Addressing the harmful impacts of invasive species should also be a priority. Water users confront challenges associated with invasive species across the West, where salt cedar (Tamarix), quagga mussels, and cheatgrass – just to name a few- all proliferate. For example, Tamarix species along riparian corridors or around desert springs can seriously reduce underground water tables and surface water availability, drying up wetlands, and reducing flows. Tamarix species can increase flooding in riparian areas by narrowing channel width. In addition, the plants are flammable and can introduce fire into wetland and riparian communities that are not adapted to periodic burning. While millions of dollars have already been spent on efforts to reduce the impacts of these and other non-native pests, it hasn't been enough. And more invasive species will continue to arrive.

## 2. Engage the U.S. Forest Service

Since the Forest Service is responsible for much of the forestland in the West, it's engagement will be critical. Bold action is required. Decision-makers must be empowered to act, rather than get bogged down in bureaucratic morass. Unfortunately, current bureaucratic practices are not equipped to fulfill the need. Upper-level policy makers and managers will need to create a plan and set an agenda that will lead to success. We must "empower the competent" to achieve scale. The areas in need of restoration encompass millions of acres; 100-acre solutions will not suffice. Legislation may be required.

Experts from the Forest Service and various affected interests must be part of the planning process. These interests would necessarily include area and state foresters, private sector forest managers, watershed experts, wildlife scientists, grazers, and local community representatives[6]. This group should be broad enough to cover areas of concern, but nimble enough to plan quickly and set the wheels in motion. The multi-level strategy includes solutions to sustainably manage our water, which largely originates on forest landscapes and watersheds. It must consider the habitat provided, or formerly provided, by the affected forest lands, and the needs of those species whose lives depend upon those lands. Likewise, traditional forest uses that have sustained local

[6] People have different interpretations of the terms "community" and "locally led conservation." As described in a letter the Alliance signed on with the Western Landowners Alliance in September 2021, addressed to the Secretaries of Agriculture and Interior, local governments, local populations, communities of practice, and various stakeholder groups can all be counted as some form of "community." The collaborative and relationship-based structure of these groups also often leads to more durable conservation outcomes, which ultimately benefits the resource and the community and can lead to innovative multi-partner solutions. However, many of these community-based and locally led organizations lack human, technical, and financial capacity to grow and sustain these efforts over time. Leaders of collaboratives often wear multiple hats and run those efforts in addition to other full-time responsibilities.

communities must be considered both as a tool to bring about needed change, and as a part of the holistic system which includes trees, wildlife, water and people. These tools include targeted logging, particularly of dead standing trees, and grazing to restore soils and reduce fire danger.

Healthy forests provide multiple recreation, agricultural, ecological and economic benefits, and indeed the legislation that created the Forest Service, mandates this. A successful plan must direct the effective transition from the forests' present non-functioning state to a functioning state. This will take time, but a commitment to action is required to ensure long-term success.

### 3. Improve federal funding programs and delivery

To increase stakeholder confidence and ensure effective funding delivery, federal agencies should invite outside guidance and clearly state to the maximum extent practical, the intended impact of funds, method of distribution, and other discretionary factors. We understand that these agencies have limited influence over specific legislative prescriptions and that further direction may be provided as the legislative process unfolds. We also believe that a certain amount of discretion based on agency expertise is necessary to ensure proper allocation of funds. However, we submit that our collective on-the-ground experience can serve as a guide to ensure that such funds broadly dedicated to conservation and restoration are best utilized to the benefit of ecosystem function, local community vitality, and working lands health.

### 4. Remove regulatory barriers to conservation

From our decades of collective expertise, we are aware of numerous barriers that prevent interested landowners and other entities from participating in programs administered by federal agencies, and ultimately, prevent funding from reaching the ground in a meaningful way. Statutory limitations such as program payment caps can create misalignment between program eligibility and conservation objectives. Regulatory hurdles, for example presented through interpretation of NEPA, can prolong agency action.

#### a. NEPA Concerns

The current implementation of the NEPA is reactive, cumbersome, time consuming and does not enable the Forest Service to implement forest management strategies in a timely manner. We have advocated for some key general recommendations to improve the Forest Service application of environmental laws: 1) Allow landscape-level land management plans to guide individual actions on the ground without duplicative administrative process under federal environmental laws; 2) Direct the creation and use of CEs already allowed under NEPA in preventing catastrophic wildfires and restoring forest habitat and ecosystems more effectively and on a timely basis; and 3) Use the NEPA process to consider how a robust vegetative management program could improve forest health, improve water quality and lead to increased available water supply by reducing demand from overly dense tree and vegetative cover.

We do not seek changes that waive or ignore existing federal environmental laws. Instead, we call for improvements to make those laws work for the benefit of the nation as intended. By eliminating duplicative or unnecessary processes and using streamlining tools already allowed under the law - and promoting action instead of litigation - the status quo could be changed. The proposed changes could help government agencies to use their limited resources to expeditiously implement land management actions designed to prevent wildfires and improve habitat for priority, endangered and/or threatened species. Surely that would be a dramatic improvement over spending precious time and resources on bureaucratic process and litigation. These types of critically needed procedural changes to NEPA implementation will improve our Western landscapes and protect our valuable water supplies from the devastating effects of wildfires. They will also allow agencies to improve habitat, restore ecosystems for the benefit of federally important species and allow continued agricultural use of our public lands.

The Forest Service two years ago proposed revisions to its NEPA procedures with the goal of increasing efficiency of environmental analysis while meeting NEPA's requirements. We supported these proposed changes to NEPA, many of which were based on adding or expanding existing CEs. At the time, it was estimated that on average, an environmental assessment took 687 days to complete. Average time to complete a CE was just 206 days. By using the new CEs in the proposed rule, the Forest Service could potentially complete NEPA analyses between 30 and 480 days earlier on applicable projects.

One of the ways to protect agency credibility in the use of CE's is to include an explicit provision that the agency will reopen the CE decision if changed circumstances or new information militate such an action. The Federal Energy Regulatory Commission (FERC) has had such a provision (called a "reopener" by FERC) for many years in its NEPA regulations and this has aided FERC in its administration of NEPA. Such a "reopener" provision is so attractive that the Bureau of Reclamation's similar provision prompted Congress to direct Reclamation to use its CE process in administering the 2013 *Reclamation Small Conduit Hydropower Development and Rural Jobs Act*, P.L. 113-24.

Increasing the efficiency of environmental analysis would enable the Forest Service to do more to increase the health and productivity of our national forests and grasslands and be more responsive to requests for goods and services. The Forest Service's goal should be to complete project decision making in a timelier manner, improve or eliminate inefficient processes and steps, and, where appropriate, increase the scale of analysis and the number of activities in a single analysis and decision. Improving the efficiency of environmental analysis and decision making will ensure that lands and watersheds are sustainable, healthy, and productive; mitigate wildfire risk; and contribute to the economic health of rural communities through use and access opportunities.

b. Candidate Conservation Agreements with Assurances and Safe Harbor Agreement

Federal agency staff capacity and siloed communication structures also present very tangible hindrances to effective program implementation on the ground and further complicate already

complex processes. For example, Candidate Conservation Agreements with Assurances and Safe Harbor Agreements can serve as useful tools to ensure that landowners' efforts to conserve and recover at-risk and listed species do not put them in jeopardy of further regulatory restrictions as a result of their conservation actions. However, these agreements are time consuming and sometimes costly to landowners to develop. Beyond agreement development though, the cost of ongoing implementation, monitoring and reporting is largely unaccounted for and often falls on landowners, the state or other agreement holders. There are certain funds that can provide cost-share assistance in developing these agreements, but ongoing support for implementation, monitoring, management and stewardship remains a gap and presents a hurdle to the long-term success of conservation objectives.

## 5. Action in Congress

We are pleased that there appears to be growing recognition in Congress of the importance of active forest management. There are several bills that have been introduced this year, intended to facilitate responsible forest management.

One of those is the *Outdoor Restoration Partnership Act*, sponsored by Senator Michael Bennet (D-CO), and supported by the Family Farm Alliance. To date, Congress has failed to invest in our Western lands, undermining our economy and way of life. As a result, local governments are often left to foot the bill for conservation, restoration, and wildfire mitigation. Senator Bennet's bill would establish an Outdoor Restoration Fund to increase support for local collaborative efforts to restore forests and watersheds, reduce wildfire risk, clean up public lands, enhance wildlife habitat, remove invasive species, and expand outdoor access. It would empower local leaders by making $20 billion directly available to state and local governments, tribes, special districts, and non-profits to support restoration, resilience, and mitigation projects across public, private, and tribal lands. The bill would invest another $40 billion in targeted projects to restore wildlife.

Another bipartisan bill would provide carbon credits to companies and other non-federal partners in exchange for thinning trees on fire-prone forests. *America's Revegetation and Carbon Sequestration Act*, co-sponsored by Senators John Barrasso (R-WY) and Joe Manchin (D-WV) would encourage more intensive forest management — and reforestation — through a variety of initiatives. The carbon credit idea would allow non-federal entities to be awarded carbon credits through voluntary markets in exchange for money they provide the Forest Service for projects that increase carbon sequestration.

One more important piece of legislation is the *Resilient Federal Forests Act,* introduced by Rep. Bruce Westerman (R-AR). This bill – supported by 85 organizations, including the Family Farm Alliance - would help address the environmental and economic threats of catastrophic wildfires.

Each of these bills is important. We hope that efforts like these will build momentum towards larger forest management reforms in subsequent bipartisan legislation.

## Colorado River Policy Recommendations

Before I conclude this testimony, I would like to update the Subcommittee on some work the Family Farm Alliance is doing in other Colorado River forums. The Alliance and its membership respects and participates in several Colorado River forums and processes, from the headwaters in the Rocky Mountains to the Delta. We trust that the foundation laid in past negotiations and operations will succeed in responding to the tough challenges presented by the current situation.

The Colorado River policy paper we developed in 2015 still resonates today[7]. The Alliance has always advocated that the best solutions are locally driven, coming from the ground up. The success of the Alliance has been based on our ability to deliver the message of the local water user up to policy makers in Washington, D.C. The "ground up" approach we employ is foundational to our West-wide approach. In the Colorado River watershed, this approach originates at the project level with local waters and moves up the "ladder" up through decision-makers at the sub basin, state, and Lower/Upper Basins levels, before being addressed nationally.

The Alliance is currently working with agricultural water users from my headwaters ranch all the way to the international border to develop a new treatise that builds on the 2015 policy and is intended to provide further guidance to help equip today's decision-makers. Agricultural water users in the Basin believe the eight policy principles from 2015 remain fundamental to the long-term health of the Colorado River and the farms and communities it supports, and they underpin the specific outcome expectations presented in that paper. These principles include:

1. State water laws, compacts and decrees must be the foundation for dealing with shortages.
2. Water use and related beneficial use data must be accurately measured and portrayed.
3. Benefits of water use must reflect all economic / societal / environmental impacts.
4. True costs of transferring water away from irrigated farms in a managed system like the Colorado River through land fallowing must be accurately accounted for, including unintended consequences and third-party impacts. Understanding these costs will assist in determining the fair value of any land fallowing proposal.
5. Agricultural water conservation can help stretch water supplies, but has its limits.
6. Public sentiment supports water remaining with irrigated agriculture, and developing strategic water storage opportunities as insurance against shortages.
7. Technologies for water reuse and recycling are proven effective in stretching existing supplies for urban, environmental and other uses.
8. Urban growth should not be permitted in the future without locking in sustainable and diverse water supplies, and using irrigated agriculture as the reservoir of water for municipal growth is not sustainable in the long run.

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[7] "Colorado River Basin Water Management: Principles & Recommendations", Family Farm Alliance, July 2015. 19pp.

The 2007 "Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead," are set to expire in 2026. We stand ready to roll up our sleeves to develop positive and sustainable outcomes in the current consultation of the Interim Guidelines, and intend to use our forthcoming paper as our first step in helping decision-makers in the Colorado River Basin deal with the harsh realities of current and future water shortages due to drought and over-allocation of water. To accomplish this, current Colorado Compact decision-makers must produce operating guidelines that:

1. **Recognize that Western irrigated agriculture is a strategic and irreplaceable national resource.** It must be protected by the federal government in the 21st Century.

2. **Provide certainty to all users and interests with equitable apportionment decisions made from a foundation of state water law, common sense and fairness.** We all have to remember that society's lawmaking efforts do not dictate the reality of Colorado River hydrology. We must strive to develop sound long term plans that avoid unintended consequences.

3. **Address critical data gaps to facilitate the trust needed to make fair operational and legal decisions related to the next set of Interim Guidelines.** An agreed-upon, common data set will build trust and enhance the ability of negotiators to make needed difficult decisions.

4. **Manage Lake Mead to provide the Lower Basin's share of the Colorado River Compact water to Lower Basin users. Manage Lake Powell to meet both the Colorado Compact obligations to the Lower Basin and protect the Upper Colorado River Compact obligations to the four Upper Basin states.** Resolve as many of the outstanding Compact issues as possible to allow both basins to best adapt and adjust to projected volatile hydrology and diminished water supplies. The current and future water supply projections are much less than those assumed from past negotiations.

5. **Expand supply augmentation opportunities as options for meeting growing water demands, at a time when Colorado River supplies appear to be diminishing.**

6. **Emphasize that future urban growth cannot be encouraged without locking in sustainable and diverse water supplies.** Using irrigated agriculture as the reservoir of water for that growth– or for growing environmental demands - is not sustainable in the long run.

These expectations will be further detailed and justified in a white paper that we plan to release in early December.

The focus of my testimony has been on forest and watershed health, which has direct bearing on the Alliance's higher-level Colorado River policy work. Colorado River policy makers are currently seriously considering augmenting Colorado River supply to meet current water supply shortages, even from adjacent river watersheds. Augmentation concepts include ideas like developing new high mountain reservoirs and innovative new small-scale groundwater and aquifer upper watershed storage projects in the Upper Basin. While much discussion has been dedicated to the demand management ideas associated with the federal Drought Contingency Plan (DCP), there are other ways to develop augmentation water, including through both cloudseeding and non-native riparian vegetation removal operations. In addition to reinvigorating these two alternatives, the Family Farm Alliance supports quantification of water generated on the landscape through forest restoration as a viable augmentation option. The water supply developed from these augmentation sources could easily exceed any water developed by a demand management program.

Generating new water through landscape management practices should become a new priority throughout the West, including the Colorado River Basin. Desalinization must continue to be part of potential solutions. We need to actively engage in injecting these options into the discussions to help provide a fair comparison to the negative impacts associated with reducing Colorado River agricultural water supplies.

## Conclusion

The revival of Colorado River watershed forests is crucial to combating the effects of climate change. By bringing together changemakers and working collaboratively, we can change the paradigm of forest management. Success will mean healthier forests, healthier wildlife populations, more prosperous and dynamic local communities, more recreation opportunities, greater economic benefits and much-needed security in our water supplies.

Balance in production and conservation is the answer to forest health.

The epic drought we have been experiencing across the western United States, especially in the last two years, and other weather abnormalities are different than in the past. Our community has found that solutions are local. We find that solutions come from the land. Farmers, ranchers, foresters and fishers all across the West work in the extremes of elements and volatile weather, and we share a love of the land. We see the pressure on the land we manage and our water supplies. Sadly, strategies appear to be evolving to take water from Western farmers, from food production, and redirect it to other uses.

I'm very lucky to live in a ranching and farming community in a watershed on the headwaters of the distressed Colorado River. We have worked for 30 years on building resilience, leading to some of the most significant watershed restoration and agricultural productivity projects in the country, as we work with federal and state partners to manage our land for multiple outcomes-protein production, fisheries, wildlife, healthy forests and vibrant rural economies.

The key to our success has been local leadership and uncommon collaboration with diverse partners to address our unique challenges and capitalize on opportunities. Farmers must be at the center of all discussions and decision-making on the Colorado River and other Western watersheds. Significant input will be needed from a wide range of farmer and other producer organizations outside of typical policymaking structures. We all must become more adaptable and open to change. We must learn from those who have experience.

We must become more effective in communicating to the world the value of farmers and ranchers. Our societies are confused. The basic principles of existence are under pressure. The steady rhythms of food production and ecosystem services are crucial to understanding our challenges and finding solutions.

We will continue our efforts to ensure that irrigated agriculture continues to play a vital role in feeding our Nation, while keeping our rural communities and the environment healthy. At a time of unprecedented change, one certainty holds firm and true – our nation's most valuable natural resource must be preserved.

The Family Farm Alliance believes that Colorado River Basin interests can and will successfully work through future droughts and water shortages in a collaborative and effective way. The future of millions of people and millions of acres of farms and ranches and the food and fiber they produce in the Basin rest on this belief. We also believe if the Basin uses the principles and recommendations advanced in this testimony, solutions can be found that do not pit one user against another in resolving differences and complex water problems.

Thank you again for the opportunity to testify on this important issue. The Alliance looks forward to working with your Subcommittee and the many agricultural, urban, energy and environmental water users in finding these solutions so critical to the future of the Colorado River Basin.