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WRITTEN STATEMENT OF THE USA RICE FEDERATION

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**TO THE SENATE COMMITTEE ON AGRICULTURE, FORESTRY, AND
NUTRITION**

**Hearing: Farmers and Foresters: Opportunities to Lead in Tackling
Climate Change**

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U.S. RICE INDUSTRY OVERVIEW

The U.S. rice industry's commitment to environmental stewardship dates back generations, long before sustainability became a popular term.

Rice conservation practices continue advancing and evolving, and the goal remains the same: produce more rice while using less water and less energy; improve water quality, air quality, and soil conservation; and enhance wildlife habitats to support biodiversity.

Rice farmers harvest roughly 20 billion pounds of rice grown on 2.8 million acres of sustainably managed farmland. The rice not consumed domestically—roughly 50 percent of the crop in most years—is exported to more than 120 countries around the globe.

Nearly 85% of the rice consumed in the U.S. is grown on family farms across the six major rice-producing states of Arkansas, California, Louisiana, Mississippi, Missouri, and Texas.

In addition to the \$3.5 billion in migratory waterfowl habitat, rice fields throughout all rice-growing regions in the U.S. contribute to substantial biodiversity, ranging from crawfish and yellow rails along the gulf coast to a successful NRCS supported pilot program in California that utilizes flooded rice fields as salmon nurseries.

All segments of the U.S. rice industry are invested in sustainable production and milling practices because it is personal – rice farmers often live on the land they work, and rice mills are important economic drivers in their communities. Together they provide tens of thousands of jobs and inject billions of dollars into the economy — all while standing on a strong record of environmental stewardship.

Every day the U.S. rice industry strives to meet the demands of growing populations while increasing resource efficiencies at every level of the supply chain. The rice community is invested in using sustainable production and processing practices because it is personal. We provide for our families, serve our communities, protect wildlife habitats, and create jobs. Our stewardship is deliberate, ensuring a healthy, safe food supply, while improving the environment, and contributing to the local economy.

Rice farming is a precise science involving specialized technology leading to healthier crops, more efficient irrigation and energy use, and improved biodiversity. Rice mills work toward no-waste practices, improving the environment, and creating coproducts and renewable energy sources from waste.

Sustainability extends beyond environmental resource impacts. To ensure good environmental practices continue, farm operation must be economically sustainable. Rice, an economic powerhouse, improves on-farm profitability, supports and sustains local communities, and significantly contributes to the U.S. economy. In many cases, community life revolves around rice as the main economic resource, supporting entire towns.

THE ROLE OF U.S. RICE FARMS IN ADDRESSING CLIMATE CHANGE

Through the innovation of farmers, the insight of scientists, and the impact of important USDA/NRCS working lands programs, U.S. agriculture has grown ever more efficient in its ability to provide food for our fellow citizens.

Within the last four decades, rice farmers have reduced greenhouse gas emissions by 41%, cut water use in half, and decreased energy use by 34%.

U.S. Rice farms also enhance water quality, create an estimated \$3.5 billion in essential habitat for migratory waterfowl, habitat for baby salmon, and create a host of other environmental co-benefits.

In addition to these economic, nutritional, and environmental contributions of U.S. farmers, is there also opportunity for the farmers of America to address climate change?

The answer to that question is a resounding YES.

Further, the work of this committee and Congress at large can facilitate, encourage, and accelerate the role of agriculture in answering these challenges.

But if we are to succeed in this critical endeavor, it is vital to get the details right.

On my family's rice farm in Arkansas, while working with the Agricultural Research Service (ARS) and the University of Arkansas, we have adopted strategies to decrease methane emissions by over 60%.

These practices led to us being among a small group of farmers who, in 2016, sold the first ever carbon credits associated with rice production.

When people ask me about that experience, I tell them this:

"Let me buy you a drink and tell you the story, but if I'm buying the drink with money we made from those credits, I can only afford one drink."

This is the reality: Agriculture has potential to mitigate and sequester greenhouse gas, but an accessible and viable marketplace that adequately and equitably values and incentivizes this remains elusive.

This committee can be part of the catalyst that is needed, but several essential pillars must form the foundation of the work this committee endeavors.

The diversity of U.S. agriculture demands that no one solution will be appropriate to each crop, cropping system, or region.

Carbon and emissions markets must value multiple practices and be inclusive of all crops. It is essential that this committee understands that the opportunities in agriculture extend beyond the buzzwords of Soil Health and Cover Crops.

The importance of Soil Health is well established, but even though my family's farm in Arkansas has some of the highest organic matter in the state, the science and the data have revealed that

irrigation practices hold the greatest potential for my family's operation to offset greenhouse gases.

The potential of cover crops in rice must be balanced against known benefits of winter flooding for creating habitat for migratory waterfowl. It is not currently possible to do both practices in the same fields. Simply put, ducks and geese and other migratory waterfowl that would otherwise lack adequate habitat and nutrition if not for winter flooded rice fields *are* our cover crops. And this "cover crop" not only benefits the fields where it is implemented, but also the ecosystems and biodiversity of our entire region.

Great diversity exists even among the rice growing regions in the U.S. Opportunity also exists as winter flooding rice fields offer habitat and biological diversity. For example, NRCS has helped growers in California refine special management practices to utilize winter-flooded rice fields as essential floodplains rearing habitat for baby salmon. This could open doors for new strategies in other watersheds as well. These types of ecosystem benefits have great value to the environment and the general public and therefore should be incentivized, banked, and traded in a similar fashion to that of a carbon or other emission credit.

Solutions to climate concerns must be based on the best available, peer-reviewed science and take into account a comprehensive analysis of risks and rewards with multiple options for each crop, cropping system, and region.

The consequences of getting this wrong are dire. Imprudent policy focused only on cover crops and carbon sequestration instead of a diverse portfolio of ecosystem opportunities could have the unintended consequence of shifting production overseas and away from the safe, secure, and proven sustainable supply of domestically produced food. It could mean lost time, wasted resources, and distorted markets.

We must follow the science. We must follow the data. And we must carefully consider the nuances of every region and crop. A myopic approach not only excludes multiple crops and regions but neglects transformative opportunities for creating a diverse portfolio of practices and solutions.

New programs cannot come at the expense of proven programs like CSP, EQIP, and RCPP.

We cannot build higher by dismantling the foundation beneath us. Congress should continue and increase investments in the existing suite of NRCS working lands programs. These programs provide numerous environmental benefits that combat climate change and drive innovation.

While these programs work well, they are severely underfunded. In Arkansas, for example, applications have exceeded funding by a factor of 3 to 1 over the last 5 years. Recognizing that new and additional resources are needed in every title of the farm bill would be a logical starting point as this committee looks ahead to reauthorization. New funding should also include adequate resources for FSA and NRCS staff, who are integral to the success of these programs.

New programs must be voluntary and eliminate regulatory barriers.

Participation must forever be voluntary and never become a precondition to accessing other USDA programs. Additionally, regulatory and bureaucratic hurdles must be eliminated. For

example, even though rice farmers began implementing the methane reducing practices of Alternate Wetting and Drying (AWD) and Furrow Irrigation (row rice) a decade ago, it took several years to be deemed as an insurable practice by USDA's Risk Management Agency (RMA). We were first told that we had to go through the 508(h) process, which is the process of private industry developing a plan for a crop insurance product, spending hours upon hours and plenty of financial resources toward this development. However, after four years of work, this path was blocked when RMA informed us that the data, we submitted was insufficient in determining the actuarial soundness of the policy.

Then we made progress in the 2018 Farm Bill by securing language directing RMA to perform research and development on whether or not an AWD crop insurance product for rice was feasible. This language plus the perseverance of rice farmers for an additional two years of work, countless meetings and back and forth with USDA, and AWD is now a covered practice.

So in this instance, a production practice which is climate-friendly with equivalent or better yield potential was stymied by the onerous and cumbersome regulatory process and the bureaucracy that exists within federal agencies. During this period of uncertainty, rice farmers took on extraneous risk by improving the AWD production practice without proper crop insurance coverage.

Avoiding similar regulatory hurdles in the future is key to incentivizing new strategies.

Technology has played and will continue to be transformative in the role agriculture plays in addressing climate change. Continued support of existing technologies is important, and funding research and innovation that advances new technologies is essential to revealing the next big opportunities. Emerging technologies in remote sensing, automation, advanced data analytics, artificial intelligence, and likely many technologies we have not even yet considered will surely illuminate new opportunities in this space.

Value must flow equitably through the supply chain

It is important that carbon markets develop in a way that farmers of all regions and farms of all sizes can be partners with the public in addressing climate change. It is likewise imperative that carbon markets not morph into a fulcrum organization used to leverage value from farmers that is not equitably distributed throughout the supply chain. Farmers must own the credits they produce and must be free to market them how and when they see fit.

With a studied, nuanced, and inclusive approach, this committee can play a role in unleashing the enduring creativity of American agriculture to attenuate climate change. If the Senate intends to address climate change, agriculture is a proven sound investment. But farmers of America must have a voice in shaping this policy, and there must be attention to detail.

THE ROLE OF USDA WORKING LANDS PROGRAMS

Programs from the USDA Natural Resources Conservation Service have played a vital role in assisting farmers in reaching and exceeding their conservation goals. On working lands particularly, Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), and Regional Conservation Partnership Program (RCPP) are the best fit for implementing changes in rice.

EQIP has facilitated lasting improvements on farmland across all rice growing regions, and these improvements will continue to provide environmental and climate benefits for generations to come.

CSP has facilitated practices ranging from irrigation water management to providing critical habitat in shallow flooded rice fields that act as surrogate wetlands for migratory birds and other wildlife.

Since the initial 2014 RCPP call for proposals, nine (9) individual RCPP awards have been led by the Rice Stewardship Partnership, which has become a model of collaboration between a farm group, USA Rice, and a conservation organization, Ducks Unlimited. Together they have established a tremendous base for rice producers to increase conservation on their farms and a venue for innovation and expansion of private lands conservation. These RCPP projects have impacted over 700,000 acres of rice and rice rotation ground and provided over \$80 million in additional conservation funding.

While the implementation of more efficient conservation practices provides a producer with return on investment, oftentimes the upfront expenses to implement the practice and the lack of technical assistance is a barrier. Without these working lands programs, the upfront investment required by the producer can be too large for them to implement on their own despite the return on investment over time. Through these programs, producers not only receive financial assistance but also technical assistance from experts who travel to their farm and create a custom plan for each operation. These practices are not a “one size fits all” and therefore this one-on-one approach is also critical to ensure success.

Nationwide and in Arkansas specifically, the demand for EQIP and CSP has outpacing funding by approximately 3:1. Over the past five years in Arkansas, the average demand for EQIP funds has been \$155 million while the state’s average funding allocation has only been \$42 million. This has resulted in unmet demand of \$113 million each year for the state’s producers. Likewise, the state’s unmet demand for CSP funds has averaged at \$95 million over the past five years due to the state having a funding allocation of only \$61 million but a demand of \$156 million.

The situation described above has also been experienced in the USA Rice-Ducks Unlimited Rice Stewardship Partnership RCPP projects despite the fact that these projects are targeted to rice producers. In the 2016 National *Sustaining the Future of Rice* RCPP, only 31% of EQIP applications were funded in the Mid-South. In 2018, another EQIP signup was held for the same states through the Partnership’s *Mid-South Graduated Water Stewardship* RCPP and only 22% of applications were funded just two short years later. The *Mid-South* RCPP CSP signup held in 2019 was also very competitive and the Partnership was only able to fund 32% of the total applications.

The adoption of innovative practices at the farm level is largely due to the financial and technical support provided through these working land programs.

OPPORTUNITIES AND CHALLENGES IN CLIMATE MARKETS

In 2016, my family’s farm had the opportunity to participate in carbon markets through a pilot project made possible by a USDA Conservation Innovation Grant administered through the White River Irrigation District and working in conjunction with the American Carbon Registry. Additional technical insight came from the Environmental Defense Fund.

The greenhouse gas emissions offsets we sold were created through the mitigation of methane emissions made possible through advanced irrigation techniques. Research done by the Agricultural

Research Service, the University of Arkansas, and other institutions helped surface the viability of these techniques. Once created and verified, the sale of the credits was facilitated by Terra Global Capital. The offsets were sold to Microsoft.

Several times I considered editing the above paragraphs in an attempt to more simply explain the process, but the reality is that it was not a simple process.

And that is okay. I am grateful for the experience, and grateful for the hard work of all of the individuals and organizations who played a role in facilitating the historical transaction. Their hard work and dedication made possible the blazing of a new trail and the uncovering of substantial future opportunity.

But like all new trails, the project also revealed the complicated terrain between us and our goals. If we are going to make greenhouse gas offsets and other ecosystems services an economic driver to catalyzing new stewardship practices, we have work to do in minimizing verification costs, bringing demand to the marketplace, and simplifying the overall process.

That challenge is achievable. But success will require nuanced, focused, collaborative work that pays heed to the lessons we have learned through experience, science, and data.

Just as the rice industry looks forward to reaching the sustainability goals we have established, we also look to future opportunities to contribute to climate change solutions through potential ecosystem service markets.

At the same time, we urge a prudent approach to any potential role this committee may play in policies surrounding these markets, and we urge a commitment that the actions of this committee bring about new opportunities without straining the resources of current important programs. We also urge a commitment that the committee value equitably the contributions of all crops and all regions and all farmers across this nation and maintain an open ear to the input of these farmers.

We urge the committee to be extremely cautious in any role the committee may play in these markets.

LOOKING FORWARD

As part of the U.S. rice industry's commitment to conserving resources while producing a high-quality and profitable crop, we recently set industry-wide goals. USA Rice's Sustainability Goals underscore the fact that the U.S. rice industry is not content to look back on our past accomplishments but is intent on pressing forward to even higher achievements.

The U.S. Rice industry has committed to reducing both greenhouse gas emissions and water use by an additional 13% and soil loss by 8% by 2030. In addition, the industry seeks to increase biodiversity and habitat development by another 10% while reducing energy use an additional 10%.

Going forward, technological advances, such as the automation of water control structures along with remote sensing technology and variable rate technology for fertilizer and spray, provide a promising future for enhanced sustainability practices. Recognizing the rice industry's success and historic commitment to sustainable practices, conservation and other public and private partners are investing in the future of sustainability and our shared goals of continuous improvement.

No one knows rice farming better than rice farmers, so it was important that these goals were developed with farmers at the table. In order to ensure a thriving U.S. rice industry for generations to come, we must continue to be good stewards of the land. These goals are a way to keep the industry accountable as the impressive conservation work continues.

The U.S. rice industry is proud of its accomplishments and will continue to improve, leading the world in on-farm production efficiencies, environmental improvements, wildlife preservation, and food safety.

CONCLUSION

Building on the past success of the U.S. rice industry, we see great opportunities ahead for further enhancing the environmental benefits U.S. rice farms can contribute to our nation and the world. We welcome the opportunity to work with this committee and Congress at large to explore opportunities and expand the role that safe, sustainable, and secure U.S. rice plays in addressing climate change. We must build these new opportunities on the solid foundation already established, and we must work together as we build higher toward ever greater goals.