

S. HRG. 118-629

**CONSERVATION IN THE FARM BILL: MAKING
CONSERVATION PROGRAMS WORK
FOR FARMERS AND RANCHERS**

HEARING
BEFORE THE
SUBCOMMITTEE ON
CONSERVATION, CLIMATE, FORESTRY, AND
NATURAL RESOURCES
OF THE
COMMITTEE ON AGRICULTURE,
NUTRITION, AND FORESTRY
UNITED STATES SENATE
ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

April 20, 2023

Printed for the use of the
Committee on Agriculture, Nutrition, and Forestry



Available on <http://www.govinfo.gov/>

U.S. GOVERNMENT PUBLISHING OFFICE

WASHINGTON : 2024

COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY

DEBBIE STABENOW, Michigan, *Chairwoman*

SHERROD BROWN, Ohio	JOHN BOOZMAN, Arkansas
AMY KLOBUCHAR, Minnesota	MITCH McCONNELL, Kentucky
MICHAEL F. BENNET, Colorado	JOHN HOEVEN, North Dakota
KIRSTEN E. GILLIBRAND, New York	JONI ERNST, Iowa
TINA SMITH, Minnesota	CINDY HYDE-SMITH, Mississippi
RICHARD J. DURBIN, Illinois	ROGER MARSHALL, Kansas
CORY BOOKER, New Jersey	TOMMY TUBERVILLE, Alabama
BEN RAY LUJAN, New Mexico	MIKE BRAUN, Indiana
RAPHAEL WARNOCK, Georgia	CHARLES GRASSLEY, Iowa
PETER WELCH, Vermont	JOHN THUNE, South Dakota
JOHN FETTERMAN, Pennsylvania	DEB FISCHER, Nebraska

ERICA CHABOT, Majority Staff Director
CHU-YUAN HWANG, Majority Chief Counsel
JESSICA L. WILLIAMS, Chief Clerk
FITZHUGH ELDER IV, Minority Staff Director
JACKIE BARBER, Minority Chief Counsel

SUBCOMMITTEE ON CONSERVATION, CLIMATE, FORESTRY, AND NATURAL RESOURCES

MICHAEL F. BENNET, Colorado, *Chairman*

AMY KLOBUCHAR, Minnesota	ROGER MARSHALL, Kansas
TINA SMITH, Minnesota	MITCH McCONNELL, Kentucky
BEN RAY LUJAN, New Mexico	JOHN HOEVEN, North Dakota
RAPHAEL WARNOCK, Georgia	CINDY HYDE-SMITH, Mississippi
PETER WELCH, Vermont	JOHN THUNE, South Dakota

C O N T E N T S

Thursday, April 20, 2023

	Page
HEARING:	
Conservation in the Farm Bill: Making Conservation Programs Work for Farmers and Ranchers	1

STATEMENTS PRESENTED BY SENATORS

Bennet, Hon. Michael F., U.S. Senator from the State Colorado	1
Marshall, Hon. Roger, U.S. Senator from the State of Kansas	4

WITNESSES

Bruchez, Paul, Rancher and Owner, Reeder Creek Ranch, Kremmling, CO	10
Flickner, Ray, Farmer and Owner, Flickner Farms, Wichita, KS	12
Ortiz y Muniz, Joseluis M., Vice President, La Merced De San Antonio Del Embudo Land Grant, Mayordomo, Acequia Del Llano del Embudo, Dixon, NM	14
Rutledge, Jeff, Partner, Rutledge Farms, Newport, AR	15
Porterfield, Dr. Sara, Western Water Policy Advisor, Government Affairs, Trout Unlimited, Boulder, CO	17

APPENDIX

PREPARED STATEMENTS:	
Bruchez, Paul	42
Flickner, Ray	48
Ortiz y Muniz, Joseluis M.	57
Rutledge, Jeff	61
Porterfield, Dr. Sara	66
QUESTIONS AND ANSWERS:	
Ortiz y Muniz, Joseluis M.:	
Written response to questions from Hon. Michael F. Bennet	80
Written response to questions from Hon. Peter Welch	80
Porterfield, Dr. Sara:	
Written response to questions from Hon. Michael F. Bennet	82

CONSERVATION IN THE FARM BILL: MAKING CONSERVATION PROGRAMS WORK FOR FARMERS AND RANCHERS

THURSDAY, APRIL 20, 2023

U.S. SENATE,
COMMITTEE ON AGRICULTURE, NUTRITION, AND FORESTRY,
SUBCOMMITTEE ON CONSERVATION, CLIMATE, FORESTRY, AND
NATURAL RESOURCES
Washington, DC.

The Subcommittee met, pursuant to notice, at 10 a.m., in room 328A, Russell Senate Office Building, Hon. Michael Bennet, Chairman of the Subcommittee, presiding.

Present: Senators Bennet [presiding], Klobuchar, Luján, Welch, Marshall and Thune.

Also present: Senators Stabenow and Boozman

STATEMENT OF HON. MICHAEL F. BENNET, U.S. SENATOR FROM THE STATE OF COLORADO

Senator BENNET. Well good morning. I am pleased to call this Subcommittee meeting on Conservation, Climate, Forestry, and Natural Resources to order. I would like to thank Chair Stabenow for being here. She is actually the Chair of the big Agriculture Committee, but we are very glad that she is here.

I want to thank Ranking Member Marshall for his tremendous partnership and for especially his staff's partnership with mine, to prepare for this important hearing, along with our colleagues who are going to join us here today.

Our goal is to have an honest conversation about the state of USDA's conservation programs, for better and for worse. To help us we have several excellent witnesses to share their firsthand experience with these programs and help us identify specific ways to make them work better for America through the upcoming farm bill.

First, I think it would be helpful to briefly review why USDA's conservation programs exist in the first place. That matters a lot to my part of the country. We have to go back almost 100 years to the early 1930's. The economy was mired in a Depression, and a combination of weak crop prices, high temperatures, and relentless drought created what we now call the Dust Bowl.

It was a terrible time for American agriculture. Out of desperation, farmers and ranchers put subpar land into production, and many abandoned responsible practices of land management. All of it made America's working lands vulnerable to dust storms that

ravaged the heartland and stripped over a million tons of precious topsoil away. The conditions forced nearly 750,000 family farms and ranches to shutter.

In 1935, Congress recognized the danger and created the Soil Conservation Service, which has since become the national Resources Conservation Services, or NRCS. For almost 90 years, NRCS has partnered with farmers, ranchers, and private landowners to strengthen competitiveness, protect the environment, and safeguard our natural resources.

Since then, Congress has expanded USDA's conservation mission with new programs, including the Conservation Reserve Program, or CRP, the Environmental Quality Incentives Program, or EQIP, the Conservation Stewardship Program, or CSP, the Agricultural Conservation Easement Program, or ACEP, and the Regional Conservation Partnership Program, or RCPP.

Although the specifics of each program vary, they all advance a larger mission, to empower America's farmers and ranchers as stewards of our lands and environment. Today that mission has never been more important as we confront a changing climate and a hotter, drier future. Even as the importance of the USDA conservation programs has grown, they continue to operate below their potential. They have not kept pace with a world that looks a lot different, in some ways, than the Dust Bowl era of the 1930's.

I say that not as a critic of these programs but as someone who believes in their promise, who fought to give them another \$20 billion in the Inflation Reduction Act. That historic investment only raises the stakes for making sure these programs work as well as they can for America's farmers and America's ranchers.

In the 26 listening sessions I have had in Colorado over the last year, and frankly for the last decade, I have heard five consistent complaints. First, NRCS programs are too rigid, bureaucratic, and burdened with red tape. To be clear, people blame Congress for this as much as they blame any administration. The applications take too long for people to fill out and too long for USDA to process. In some cases, people have to literally fill out their applications by hand and send them in the mail in the year 2023.

In my State, the Colorado Cattleman's Land Trust received a conservation easement from RCPP two years ago, but USDA still has not sent them the paperwork to start the easement process. They also face delays with another easement, and they just found out it is because there is only one person at NRCS who reviews easement modifications for the entire country.

Second, while this bureaucracy is a point of pain for everybody, it is especially hard on young farmers, small-scale producers, and first-generation farmers. They do not have the time or experience, many of them, to navigate the red tape well, and they often cannot afford to hire somebody to do it for them. A young farmer from Boulder, Colorado, told me that she spent over 80 hours applying for EQIP, only to receive \$1,700 for her 10-acre farm. If it takes 80 hours for the possibility of receiving \$1,700, I can see why someone would think twice before applying. The future of rural America depends on whether the next generation decides to continue their family farms and ranches, and instead of making assistance more accessible we have made it more difficult and more painful.

Third, a lot of that pain comes from a crippling shortage of staff and expertise. I hear over and over again people saying, "I am not blaming the people that are working at the agency. I am not blaming the agency itself. They do not have enough people, and they do not have enough expertise."

Staff levels at NRCS have been going down for years, and they took a massive hit during the last administration. While I applaud Secretary Vilsack for his heroic effort to staff up again, we still have a lot of work ahead to get the right people in place. Until we achieve that, we are going to continue to see delays in projects and people discouraged from participating at the very moment that we need everybody to scale up.

One way USDA could help fix this would be by offering salaries that are actually competitive. NRCS posted an engineering job in Durango, Colorado, for \$35,000 a year recently. Madam Chair, you cannot hire an engineer in Durango for that, where the typical home there costs \$600,000.

Fourth, USDA's conservation programs should do more to help producers in the West grappling with the 1,200-year drought. We have got to do better, for example, by offering real incentives to conserve land in the heart of the Dust Bowl and equipping farmers and ranchers with tools to use water more efficiently.

Finally, NRCS programs need to reflect actual costs in the economy. In Colorado, people tell me they have given up on EQIP projects because as they waited two years for USDA to process their application, the project cost doubled, and the math no longer penciled out.

When you put it all together, these five issues are a massive headwind to USDA's conservation mission, and it has real costs to America. It is the rancher who wants to do the right thing by his land but lacks the expertise or funds to make a transition. It is the rural economies that are deprived of opportunity, the topsoil that is degraded, the water that is polluted, and the family farmers and ranchers are forced to sell their land instead of passing it on to the next generation.

They are doing everything they can, these farmers and ranchers, to pass on that legacy to their kids and to their grandkids. They deserve conservation programs at USDA as imaginative as they are, as ambitious as the problems they seek to solve, and that reflect the indispensable role of America's farmers and ranchers as stewards of our working lands and of our environment.

Today our farmers and ranchers are not dealing with the Dust Bowl, but they are facing, in my part of the country, a 1,200-year drought. They face the changing climate and a future that is going to be a lot hotter and a lot drier. They do not have time to waste. They need us to make USDA's conservation programs work and live up to their potential. My hope is that today's hearing can help us identify specific ways to make progress, and I am prepared to work with every member of this Committee in a bipartisan way to do so.

Let me stop there and turn it over to my friend, Ranking Member Marshall.

**STATEMENT OF HON. ROGER MARSHALL, U.S. SENATOR FROM
THE STATE OF KANSAS**

Senator MARSHALL. Well thank you, Chairman Bennet. I do appreciate you holding this hearing today. Welcome, everybody. Madam Chairwoman, thank you for coming, as well, for a very important topic near and dear to all of our hearts. Chairman Bennet, I especially want to say thank you for your friendship and you mentoring me along on this conservation project that we are co-chairing over on this side. I do appreciate your leadership.

I appreciate you mentioning the drought. We have got a drought map behind us, and unfortunately this drought does not stop at the Kansas border. I would imagine the eastern third of Colorado looks very similar—

Senator BENNET. It does not start at the Kansas border either.

Senator MARSHALL. It does not start there, and it goes down to New Mexico as well, and our friends from Oklahoma, probably the most drought-stricken area in the country right now. I have never had a tougher time talking to farmers and ranchers than I am right now. The one thing I cannot do is make it rain.

I am a fifth-generation farm kid myself, and I know how hard Kansas farmers and ranchers work daily to protect our environment and conserve precious resources. Farmers and ranchers are the original stewards of the land. They were the original environmentalists. We all want to leave this world cleaner, healthier, and safer than we found it.

I think it is incredibly important for farmers and ranchers to talk about the regenerative agriculture practices, conservation that they are already doing. In Kansas, we have not just been talking about it, but we have been walking that walk since the Dust Bowl. Our office has made it a point to promote conservation efforts within the Kansas Ag community as well as ongoing Federal conservation programs taking place in Kansas, and I am going to brag on them today.

Kansans are working every day to protect our environment and conserve precious resources our Ag economy needs to thrive. Kansas farmers, ranchers, growers, and producers are finding unique and practical ways to preserve our land and protect our water and air. Their efforts are worthy of everyone's praise.

Some notable examples in Kansas start with one of our witnesses, Ray Flickner and his family, who will be talking in more detail about his operation, but I can say that Ray was practicing regenerative agriculture for many decades before it became mainstream in the Kansas Ag community.

Next, the Browning family has utilized USDA's Great Plains Grassland Initiative to restore grassland currently dominated by woody plants. Woody plant encroachment threatens livestock production and increases the chance of wildfires. This has been a war on our own land, on our own ranch, where I have spent hours and hours with a tractor and a mower, trying to mow down cedar trees and doing fire management as well.

The brown spots here is where they tried to get rid of some of the salt cedars. The salt cedars line the Arkansas River all the way to at least the border, and each one of those suck water out of that

water basin. The same thing happens with Rattlesnake Creek, which flows through our land and into Quivira Wildlife Refuge.

Next we have Randall Carr from Lyon County who has focused his efforts on protecting his fifth-generation family farm. Mr. Carr has adopted several conservation practices, including cover crops to minimize soil erosion, no-till planting, and weed management and rotational grazing with his meat goat herd to control weeds and add nutrients back into the soil.

Now before we go to the next one I want to just point out that on our farm we have been practicing no-till planting for over 20 years. It is nothing new. Those farmers, I am afraid, are not going to get rewarded for the good practices they have been doing for decades, but we are only going to reward new people for doing it. We have to make sure that is a level playing field. The same thing with the cover crops as well. We have been doing that for decades. We do not have goats, though. That is one thing that we have not gotten into yet.

Next, one of my favorite places, Joe Carpenter, a Flint Hills rancher, uses burning practices to preserve the landscape and ecosystem of the Flint Hills, the last remaining tall grass ecosystem in the United States. For thousands of years, tribes set fire to the prairies to kill invasive species and encourage the growth of new grass, which attracted bison to the area for hunting. The need for the fires continues today. Plants, animals, and the economy still depend upon it.

I was up in those Flint Hills just Saturday, and even though I got rained on and hailed on I managed to catch some bass, and I am going to be taking Ranking Member Boozman to that same area to see some of those tall grasses, which the Chairwoman has seen herself on her last visit to Manhattan, Kansas.

Next, we do not have a picture but the Milford Watershed is something I am very proud of, working with Kansas Farm Bureau and other regional conservation partnerships through the USDA and NRCS to help Ag producers act on water quality. The voluntary program works to help farmers and landowners increase the health of their land and make operations more efficient through actions including nutrient management, planting grass filters residue and tillage management and cover crop planting. Their practices lead to a better quality in Milford Lake.

Chairman, I am not sure if you have had a problem with some of the algae—is it blue algae, Tuck?—the blue algae that releases the toxins, but Milford Reservoir services Fort Riley, among other places, and we had a problem with blue algae, went in with a project where we planted grass filter strips along the streams that feed that, and hopefully it will have an impact.

Next is the Both farm. From a Garden City company they took the initiative to conserve water by starting water technology farms. After concerns about declining water levels in the Ogallala Aquifer in northwest Finney County, due to years of drought, they established a voluntary water conservation area. Again, I have got many farmers and ranchers trying to do something with voluntary water conservation. How do we reward them similar to when we set grasslands aside?

During that time they have used only 53 percent of their allotment, and while in the 5-year timeframe of the allocation we have had above average precipitation, they demonstrated that they could maintain yields and profitability while conserving water for future years. So this diagram, which pivots most likely of corn. We could also grow soybeans here. That is typically what we irrigate in Kansas, in southwest Kansas. This would probably be corn.

There are all sorts of different pilot projects, whether you have your nozzle up this high and water goes to the ground, and you lose a lot to evaporation. You want to get that water as close to the ground source. We are also even putting, I am going to call it "ribbons," underneath the ground for water irrigation. It is very expensive but you can also put nutrients through that, again growing more with less.

The next project, the Playa Lakes Joint Venture collaborated with USDA and NRCS, for a groundwater recharge and sustainability project, another huge success here, to address declining aquifer levels in western Kansas, Wichita and Greeley Counties, and support the Leoti and Tribune communities. Since their project, 1,100 acres of Playas near Leoti and Tribune have been restored, 375 million gallons of water was saved. Again, a project we have been working on with Ducks Unlimited long before I got to Congress. Little playas, little low-water areas that are horrible at growing something, but the wildlife loves it. We are trying to figure out, how do you set aside a whole quarter of land or a whole 80 acres, how do you set aside just little playas that might be 3 acres, 5, or 10 acres. That is going great.

Yesterday I met a dairy producer, one of my favorite stories of the day. Everybody has got to hear this one. I visited the Miller Dairy, goodness, four or five years ago outside of Hutchinson. He has maybe 130 head of Holstein cows. What he is doing, believe it or not, landfills account for about 20 percent of the world's methane production, and landfills where our city dumps are. He is taking food waste from there, including pie crust, and he is taking candy from Russell Stover, taking them out of those waste piles and feeding them to his cows, and they make great milk. The pie crust on my right and candies from Russell Stover, the best candy maker in all of America, in Abilene, Kansas. Yes, it is the sweet milk. Home of Dwight Eisenhower.

Okay. Efforts of these Kansans through voluntary actions in Federal programs illustrates the desire farmers and ranchers have to produce resources and conserve land. With that in mind, the conservation programs in the next farm bill must focus on producers, most be results driven rather than solely practice driven, and must be flexible enough to be useful.

Thanks again to all the witnesses. Thanks for having this hearing. I am excited to hear from them today.

Senator BENNET. I am excited to have somebody on the Agriculture Committee who has got as much firsthand experience as you do. It will make a huge difference, so thank you very much for being here, and thanks for your leadership.

You will not believe this but I have not thought about Finney County, Kansas, for a long time. I wrote a high school paper about

sugar beet production in Finney County during the Dust Bowl, and I have not thought about it since then, so I have got to go find it.

Senator MARSHALL. It is a great place to visit. A great rodeo.

Senator BENNET. Got to go back.

All right. We have been joined by my neighbor, my great neighbor, Senator Luján from New Mexico, who has got a witness here to introduce, and I know he has a busy schedule. Why don't you introduce your witness from New Mexico and then I will introduce the rest, except for the ones that Senator Marshall is going to introduce.

Senator LUJÁN. Chairman Bennet, thank you very much, and Ranking Member Marshall, for convening this hearing. It always great to be with our Chair and our Ranking Member of the full Committee as well.

It really is an honor and a privilege to introduce a well-respected friend, neighbor, leader, mentor in New Mexico, and that is none other than Joseluis M. Ortiz y Muniz, to testify about the important role conservation programs play in all of our lives of our farmers and all of our brothers and sisters that are ranchers as well.

Mr. Ortiz y Muniz is an Indigenous land-based native New Mexican and father from the Genizaro land grant of La Merced de Santo Tomas el Apostol de Rio de Las Trampas. I know it is a mouthful, but when you go visit it you will learn it. It will take your breath away. Also La Merced de San Antonio Del Rio Embudo, where he serves as vice president. He is also from the Spanish land grants of La Merced of La Merced de Santa Cruz de La Canada, where he serves as secretary, and La Merced de Santa Barbara.

He lives in the village of San Antonio Del Rio Embudo in the high desert of northern New Mexico. It is there where he tends to crops and cares for livestock, and also stewards ancestral lands.

Now he is a water leader in his community as well. Mr. Chairman, you all understand the power and importance of acequias out in Colorado as well, where these are centuries-old, earthen structures that were created by hand, and annually we clean them with a shovel, for the most part. We get in there and we keep them wide, about a half-shovel, I think, that we take out at the bottom with the silt that comes in, three feet wide, three feet deep in some places. It is incredible as to what our ancestors thought of with their ingenuity. We call them acequias. It is fun now that Federal officials know what acequias are, so we are doing our best there, Joseluis, and we will continue to do better.

Professionally now, he is the program director and research scientist at the Sostenga Center for Sustainable Food, Agriculture, and Environment at Northern New Mexico College, and is the community liaison for the GreenRoots Institute. At the Institute he works to help coordinate the development of grassroots community-driven process to determine and implement environmentally, economically, and culturally sustainable plants rooted in water, food, and economic security for the future of New Mexico's culture.

I want to say welcome, Joseluis. It is good to have you.

Mr. Chairman, while I know I was here to introduce, I also want to commend the conversation that both of you opened up this hearing on, and the importance of these programs, like NRCS, USDA,

and the frustration that is felt by all. I hear about it when I am at the grocery store or when I was cleaning ditches this last couple of weeks. Folks will pull over because they will see me in the field, and they come by to chat. And they share with you their frustrations of what is going on.

Then also, Madam Chair, you know, and the Ranking Member knows, I have always advocated for smaller land producers as well. Back home I am only on about 4 1/2 acres. A lot of the folks that Joseluis is helping are on a few acres. Much of it is for self-sustenance. Some of it, it is the family's budget. And so I just want to say thank you for what you are doing and letting me work with you on those issues, and thanks for letting me introduce Joseluis.

Senator BENNET. Thank you. Thank you Senator Luján, and thanks for bringing your perspective as well. It is really valuable, and we are glad you made the trip to do this introduction.

We have been joined by the Ranking Member, Senator Boozman, from Arkansas. Thank you for coming to this important hearing. Thank you for your leadership. There is a witness from Arkansas. If you would like to introduce Mr. Rutledge, I would be happy to have you do that.

Senator BOOZMAN. Thank you all. It is great to be with the Chairwoman, and again, thank you, Mr. Chairman, Ranking Member Marshall for convening this very, very important hearing. I think everyone on the Committee understands how important the conservation programs are.

One of the people that we are very proud of in Arkansas, he and his family, is Mr. Jeff Rutledge. He is a fifth-generation farmer from near Newport, Arkansas. He and his wife Amy produce rice, soybeans, and corn along the White River and Cache River.

Jeff returned to his family farm after earning his bachelor's degree in plant science from Arkansas State University, and a master's in agronomy from the University of Arkansas. He covered both bases. That is always a good thing. Jeff currently serves as one of the inaugural members of the USA Rice and Ducks Unlimited Rice Stewardship Partnership Committee, and various other committees and boards. And again, we are very, very proud of Jeff and his family, and thank you for taking the time and the effort to be here, and thanks to all the panelists.

Senator BENNET. Thank you, Senator Boozman. And with that I am going to introduce a couple of witnesses from Colorado, and then Senator Marshall will introduce his witness, and we will get started.

I first have the great pleasure and privilege to introduce Paul Bruchez to the Committee. Paul is the fifth generation of the Bruchez family to farm and ranch in Colorado. He operates the family ranch near Kremmling with his brothers and father.

Paul is currently spearheading a restoration project through the Regional Conservation Partnership Program on the Colorado River with 12 landowners, to sustain agriculture and the health of the river. Paul was recently appointed to represent the main stem of the Colorado River at the State level for the Colorado Water Conservation Board. He sits on the board of directors for the Colorado Water Trust and serves on the Grand County Open Lands River and Trails Advisory Committee.

I visited with Paul to see his and his neighbors' important work through this program and it was also a pleasure to have Paul as my guest at the State of the Union this year. Paul, thank you for being here, and I look forward to your testimony.

Dr. Sara Porterfield is also here from Colorado. She is the Western Water Policy Advisor for Trout Unlimited. Her work connects Federal policies and programs with Trout Unlimited's on-the-ground projects throughout the American West to improve aquatic habitat and ensure that both communities and the environment thrive. She holds a Ph.D. in history from the University of Colorado Boulder, where her work focused on the Colorado River Basin.

I am grateful to have her here with us at this hearing. Sara, I look forward to your testimony.

With that let me turn it over to Senator Marshall for his introduction.

Senator MARSHALL. All right, Chairman. I am excited to introduce another fifth-generation farmer, from Moundridge, Kansas, Ray Flickner. His son, Ryan, is here and I want to recognize Ryan. Ryan, think about this. That means your great-great-great-grandfather was homesteading land in Kansas about the same time mine was, and over and over that story is repeated.

Ray is a graduate of the fighting, ever-fighting Kansas State Wildcats, the Nation's first land grant college. If you do not believe me there is a little painting over in the Capitol, on the far, far south side of the building that commemorates that Kansas State University being the first land grant college. You cannot take that away from us, ever.

Then Ray went on and got a master's degree in education. He has taught various ag-related courses at different Kansas colleges, including Bethel, Hesston, Salina Vo Tech. During the 1980's, Ray began work in Ag finance and banking, first with the Federal Land Bank during the peak of the farm crisis. We all remember that. Then he worked for the U.S. Ag Bank before transitioning to commercial Ag finance in the 1990's and 2000's. That diverse background not only allowed Ray to observe multigenerational family farms from a family legacy perspective but also taught him that production agriculture must be sustainable, both in terms of financial strength and natural resource conservation.

Ray owns and operates Flickner Farm and created the Flickner Innovation Farm Project, a partnership between his farm, university research, and industry leaders, to identify and test a multitude of conservation practices in a non-farm setting.

Ray served on the Groundwater Management District board of directors. He is also a member of the Kansas Water Authority, and currently Ray is an active member of the Little Arc Watershed Restoration and Protection Strategies stakeholder leadership team. His work has been recognized statewide. The Flickner Farm has received a Success Story Award at the 2022 Kansas Governors Water Conference and the 2021 State Natural Resources Award from the Kansas Farm Bureau, and was a finalist in 2021 and 2022 for the coveted Leopold Conservation Award, and received the Kansas Banker Association Award for both soil and water conservation.

Ray, welcome. You bring a vast wealth of experience, and we cannot wait to hear your testimony.

Senator BENNET. Thank you, Senator Marshall, Chairwoman Stabenow had a word.

The Chairwoman. Thank you.

Senator BENNET. A Kansas word.

The Chairwoman. Yes, I had a Kansas word because, Senator Marshall, when you said Kansas State I am thinking Pat Roberts, and I just have to tell you, today is Senator Pat Roberts' birthday. If you are watching, Senator Roberts, happy birthday. I was at the Sweet 16 where Kansas State beat us in overtime, at Michigan State. We were texting back and forth, and I will not tell you when Pat said when we won.

[Laughter.]

The Chairwoman. Let us just say he loves Kansas State. Thank you, Mr. Chairman.

Senator BENNET. Thank you very much. I appreciate it. I will say what Pat Roberts once said to me. We were having a fight over taxes of some kind, and I was probably wrong and he was probably right. He said to me, "Be careful, young man. Some people in my State might want to be able to afford to drive to Colorado to buy your free marijuana."

[Laughter.]

Senator BENNET. He was not the one wanting to drive there to do that. I said, "Mr. Chairman, it is not free. It is legal." That was Pat Roberts.

Paul, why don't you get us started. We would love to hear your testimony, on that note.

**STATEMENT OF PAUL BRUCHEZ, RANCHER AND OWNER,
REEDER CREEK RANCH, KREMMLING, CO**

Mr. BRUCHEZ. Chairman Bennet, Ranking Member Marshall, Madam Chairwoman, members of the Subcommittee, thank you for the opportunity to be here today.

My name is Paul Bruchez, and I am proudly the fifth generation of the Bruchez family to farm and ranch in Colorado. Our family ranch, Reeder Creek Ranch, is about five miles east of Kremmling, on the headwaters of the Colorado River. We run a traditional cow/calf operation. We also run a fly fishing business.

In 2022, I was appointed by Governor Polis to be the director of the main-stem Colorado River representing the Colorado Water Conservation Board, a role I am very active with today.

Starting in 2002, the headwaters of the Colorado River suffered from low snowpack and runoff. Drought conditions took over the landscape. Faced with the same situation in 2003, we recognized the severity of the problems. Our ability to irrigate and to operate a successful agriculture business was in jeopardy. At that time, we decided to get involved and make improvements to our ranch to adapt to the changing environment. The Regional Conservation Partnership Program has been instrumental in surviving the last 23 years of ongoing drought.

The Headwaters RCPP, known as the Colorado River Headwaters Project, has three main projects, directly impacting 30 miles of the Colorado River: the Colorado River Connectivity Channel Project, re-connecting the Colorado River around a small reservoir funded by the Watershed Act, PL 566 under the RCPP; the Habitat

Restoration Project addresses critical habitat for the 15 miles below the connectivity channel; and the Irrigators of the Lands in the Vicinity of Kremmling, or ILVK project, addresses 12 more miles of the Colorado River and 1.5 miles of the Blue River, for 12 different landowners. This project focuses on irrigation infrastructure and river health so that sustainable Ag production continues in the face of Colorado River water scarcity.

The Colorado River Headwaters Project is a shining example of partnership and adaptation for the State of Colorado. With Trout Unlimited as the lead partner, it includes agriculture, municipal interests, conservation organizations, local, State, and Federal Government agencies all working together to address river health and Ag productivity.

The key partners from this project have also worked together on a water conservation project, helping the State to understand high elevation use of agricultural water and other key data to help inform policy decisions. It is now working on an alternative forages project to help producers in water-scarce areas and to potentially rethink how water conservation projects or programs can and will impact food and fiber production. Existing conservation programs in the farm bill can do more to assist producers if they promote innovative practices that are driving a more sustainable future.

In January 2019, my family signed a contract the NRCS under EQIP-RCPP. This project had multiple goals. It is the second-largest Ag diversion ditch in Grand County with a right to divert up to 65 cubic feet per second from the Colorado River to five separate producers. The diversion structure and head gate are on my family's ranch, and we have the largest water right. The project was developed to replace the existing diversion structure and head gate, including a fish screen on the head gate to prevent fish from going into the ditch.

The RCPP agreed that projects that were built in the river were outsourced to our river engineer, or "outsourced technical assistance." On-farm projects were from the head gate down ditch, were to be designed by the NRCS, or "NRCS technical assistance."

For the diversion structure, outsourced technical assistance, we had a design by July 2019, just seven months after contracting. We were finished with construction by October 8, 2019, less than a calendar year from contracting.

As far as the NRCS technical assistance, the first draft of design that I saw was produced on October 25, 2021. This is two years and nine months after contracting. This delay is a good example of NRCS capacity struggles. I would suggest that we evaluate a better approach. Does it make more sense for NRCS to increase capacity with additional staff or is the NRCS better situated to outsource design work?

The NRCS has some great folks doing great work. Our State Conservationist, Clint Evans, and our former State Conservation Engineer, John Andrews, are champions and they deserve a lot of recognition for getting projects on the ground in Colorado. They need additional capacity and they need additional flexibility.

The opportunities created by the farm bill and the conservation title helped to save my community at the headwaters of the Colorado River, and I am very grateful for the opportunities that exist.

Processes and fundamentals that can be improved to streamline process to get projects on the ground quickly. Administrative burdens, NRCS staffing issues, technical assistance capacity, and a lack of flexibility in programs and contracts have created challenges for getting work done on the ground.

This necessary help has yielded enormous benefits, and the partnership involved is a model for how the farm bill can advance resiliency for Ag and the environment.

My brothers and I all have young children. We want them to be the sixth generation of agriculture in Colorado. My hope is that there are continued conservation programs that focus on innovation and can adapt to a changing world. Right now is our opportunity to create solutions for future generations.

With that I conclude my testimony. Thank you, Chairman Bennet.

[The prepared statement of Mr. Bruchez can be found on page 42 in the appendix.]

Senator BENNET. Thank you very much for your testimony. Now, Mr. Flickner, you are recognized for five minutes.

**STATEMENT OF RAY FLICKNER, FARMER AND OWNER,
FLICKNER FARMS, WICHITA, KS**

Mr. FLICKNER. Chairman Bennet, Ranking Member Marshall, Chairwoman Stabenow, and Ranking Member Boozman, it is a privilege and an honor to provide testimony on conservation in agriculture today.

As we celebrate the Earth Day this week, I believe it is important to recognize the multitude of natural resources we have been blessed with and the efforts farmers and ranchers make to care for their land. My name is Ray Flickner, and I am the fifth generation to farm land west of Moundridge, Kansas. Ever since my wife Susan and I purchased our first tract of land in 1980, we have held a steadfast belief that we will leave our land in better shape, better condition, than when we found it.

Today we own and operate land in four different counties in Kansas, most of which have vastly different rainfall patterns, topography, and underlying soil health conditions. In McPherson County, where the headquarters are, we are blessed to have a portion of the High Plains Aquifer a mere 60 feet below the soil surface. Using this resource, my father developed the second-oldest water right in the township back in 1955, to irrigate row crops and to raise catfish. I am proud to say that we are still pumping irrigation water out of the same well casing that he installed in 1955.

On our home farm, I have seen firsthand how conservation programs and practices can contribute to a more sustainable and resilient farming operation. Water use is a big part of that. In the past 20 years, I have converted more than 600 acres of flood-irrigated farmland to an efficient, subsurface drip irrigation system, and retrofitted a center pivot with precision mobile drip irrigation, as Ranking Member Marshall addressed previously.

According to the Kansas Department of Agriculture Division of Water Resources, implementing these conversions has allowed me to use 40 percent less water than the county average.

I have used the expertise of NRCS, FSA, WRAPS, Kansas Department of Wildlife and Parks, and others, not only for cost-share but for important technical assistance to improve the natural resource management of the operation. With technical assistance, we have rehabilitated a 70-year-old windbreak and constructed new shelter belts. We created better working habitat along creek banks and acreages that were not able to be used for row crop production.

EQIP has allowed me to construct terraces, to improve my irrigation systems, and to purchase soil and moisture probes that help improve my water use management. CSP helped me create a pollinator habitat on fields that were too difficult to farm. CRP has proved beneficial for protecting highly erodible land.

While I appreciate these opportunities to protect my land's natural resources, improvements can and should be made on how USDA supports conservation-minded farmers. I cannot tell you the number of times I have visited my local USDA Service Center, applied for a program, filled out the paperwork, only to be told that I do not qualify. In fact, for three years now I have applied for an EQIP cost share to plant cover crops and still have not been accepted.

The exorbitant time requirements and costs associated with designing and building and complying with these programs has made implementing the practices also too costly. For example, one of my tracts is a CRP contract that requires a prescribed burn. The amount of money spent to have that single burn completed several years ago was almost as much as what the total 10-year payments on the CRP contract amounted to. Needless to say, I do not plan on re-enrolling that CRP.

I believe most producers can tell similar stories. They want conservation on their land, and they are implementing best management practices that greatly benefit the public good. We know building terraces, grass waterways, and where practical, implementing cover crops greatly reduces soil erosion. We know converting irrigation delivery systems to more efficient technologies helps prolong the lifetime of our groundwater aquifers. Thankfully, there are local, State, and Federal cost-share programs to implement these activities.

I do argue, however, much more can and should be done. Evolving technologies such as aerial imagery and plant-based sensors help deliver real-time data on natural resource health, but are not considered to be eligible practices by NRCS. Similarly, if Congress chooses to move the CRP in the direction of a working lands program rather than a land retirement program, by allowing additional haying and grazing opportunities, or even allowing CRP to be fenced and grazed, these changes will go a long way in sustaining our Nation's grasslands, soil, wildlife, water, and ultimately the American producer's bottom line.

I thank you for allowing me the opportunity to share some thoughts from a fifth-generation agriculturalist from Kansas, about a topic that is very near and dear to my heart, and I stand ready to answer any questions that the Committee might have. Thank you.

[The prepared statement of Mr. Flickner can be found on page 48 in the appendix.]

Senator BENNET. Thank you, Mr. Flickner, for your very useful testimony.

Now we will turn to Mr. Ortiz y Muniz for your five minutes. Thank you for being here.

**STATEMENT OF JOSELUIS ORTIZ Y MUNIZ, VICE PRESIDENT,
LA MERCED DE SAN ANTONIO DEL EMBUDO LAND GRANT,
MAYORDOMO, ACEQUIA DEL LLANO DEL EMBUDO, DIXON,
NM**

Mr. ORTIZ Y MUNIZ. Thank you, Honorable Michael Bennet and Roger Marshall, for holding this important hearing and for inviting to share my story and bring the young farmer perspective to this conversation.

My name is Joseluis and I am an Indigenous land-based native New Mexican from four federally patented land grants in northern New Mexico. I am a father, a mayordomo, a professor, a National Young Farmer Coalition Water Fellow, and a community liaison. I live in northern New Mexico with my family, where I grow vegetables and raise livestock.

Just as my grandfather stood in front of Congress many years ago, I stand in front of you from generations of farmers to share a vision for a future of agriculture in my community and for future generations.

For me, the pathway out of opioid addiction was a return to my agricultural roots and to reconnect to my ancestral lands. Had it not been for a farmer training program championed by organic farmer, Don Bustos, and hosted at Los Jardines Institute in Albuquerque, I likely would have found myself in jail, homeless, or even dead.

The way to authentically prepare for an uncertain future is to equitably resource the next generation of farmers. My vision for an equitable farm bill is conservation programs that focus on ecosystem health, community infrastructure and expertise, land access, and cultural competency.

When I returned home I lacked the tools, resources, and land access that would support a viable return to farming. These challenges inspired Don and I to revitalize the land-based learning center at Northern New Mexico College, called Sostenga, where I am a farm director and a research scientist. We run a demonstration farm that teaches farmers and feeds students.

Also I am a mayordomo for my acequia, serving 120 water rights owners, managing the distribution of our sacred water resource as well as the maintenance of our 4 miles of acequia infrastructure. Acequias are ancient irrigation canals dug by my ancestors hundreds, even thousands of years ago. Acequias are also democratic community self-governance systems deeply rooted in principles that guide our community's ability to thrive in an environment that would otherwise be impossible.

So much has changed in recent years due to the unpredictable effects of climate change. What once was a thriving Embudo River has now transformed into a creek because of persistent drought. On the other hand, extreme flooding and wildfires, like the Calf Canyon Hermits Peak Fire have caused catastrophic damage to our acequias, and a year later we are still just picking up the pieces.

We dread a future where acequias could become a footnote in history.

Protecting our systems, our acequias, and our traditional life ways, truly an American cultural capital is crucial. We need more Federal investments in acequias and land grant systems and recovery programs like the Emergency Watershed Protection Program.

As a community leader I work closely with farmers, providing training and technical assistance and helping with NRCS and FSA applications and program implementation. If I do not support farmers in my community, who will?

One of the biggest barriers my community faces is understanding the application's complexity, which results in sentiments that these programs are not meant for them. This is not unique to just my community. According to a 2022 survey by the National Young Farmers Coalition, nearly three-quarters of young farmers do not know that there are USDA programs to assist them. The unpaid work I do fills the gaps in the NRCS program delivery.

The role of a farmer should be to grow food, not to fill out paperwork. The NRCS should improve programs and uptake through culturally competent technical assistance paired with equitable outreach, harnessing peer-to-peer farmer networks and community-based organizations. This could look like hiring and compensating people from the surrounding and direct community who understand local community needs, providing the support I provide, serving as true agency resource for farmers.

A recent survey from the American Farmland Trust found that more than half of respondents get their technical assistance and education directly from farmers, compared to 20 percent from the NRCS. They need to look to partners, technical service providers, and peer-to-peer opportunities for assistance.

Through our coalition, producers have identified two key barriers to accessing EQIP funding—farm size and difficult applications. Research has shown that large farms are more likely to receive payments than small farms because NRCS usually prioritizes projects based on acreage.

NRCS should create a small-farm version of EQIP, one that can help meet the needs of small farms and help young farmers access funding more easily through a simplified process. By investing in young, small, and farmers of color, USDA can make long-term conservation and resilience a reality for the next generation of farmers.

Thank you all for listening to my story, and thank you all for your support.

[The prepared statement of Mr. Ortiz y Muniz can be found on page 57 in the appendix.]

Senator BENNET. Thank you very much for your testimony and traveling from New Mexico to be here, Mr. Ortiz y Muniz. We really appreciate it.

Mr. Rutledge, you are next, for five minutes. Thank you.

STATEMENT OF JEFF RUTLEDGE, PARTNER, RUTLEDGE FARMS, NEWPORT, AR

Mr. RUTLEDGE. Good morning, Chairman Bennet, Ranking Member Marshall, Chairwoman Stabenow, and Ranking Member Booz-

man, and other members of the Subcommittee. Thank you for holding this hearing and the opportunity to testify.

My name is Jeff Rutledge, and I am a fifth-generation rice, corn, and soybean family farmer with my wife Amy in Newport, Arkansas. I am also actively involved in two organizations that are leaders in the conservation arena, USA Rice and Ducks Unlimited.

As a farmer I am proud to live, sustainably manage, and earn my living from land at the nexus of production agriculture and conservation. In addition to the rice and other crops that I produce we are proud to provide critical habitat to hundreds of species of wildlife, particularly migratory waterfowl, namely ducks.

Rice fields throughout the U.S. rice-growing regions not only provide \$3.5 billion in migratory waterfowl habitat, but also contribute to substantial biodiversity, ranging from crawfish in the South to salmon in California.

Farm bill conservation programs are important to the rice industry, and most important is that they are voluntary, incentive-based, and follow a locally led model, which is critical to widespread adoption by rice farmers.

Conservation programs should have the dual goal of not only incentivizing environmentally beneficial practices but also helping producers transition to conservation systems that promote productivity and economic viability as compatible goals while supporting the rural economy.

Working lands programs like EQIP and CSP serve as economic drivers. It takes more than just one farmer to complete the work needed to implement an EQIP or CSP contract, including outside technicians, engineers, and local soil and water conservation districts needed to help oversee the conservation planning, as well as the scientists, land movers, and other equipment necessary to implement those conservation practices.

Nationwide, and in Arkansas specifically, the demand for EQIP and CSP has outpaced funding by about three to one, resulting in significant unmet demand for both programs.

As you write the 2023 Farm Bill, Congress should prioritize working lands programs, like EQIP and CSP.

EQIP is a vital tool for us because it is straightforward with an extensive list of practices that work for all regions and all production systems. EQIP's broad suite of structural and management practices can help better manage water resources, help with irrigation efficiency, reduce soil erosion, improve soil health, and enhance water quality.

CSP helps to target specific resources using several complementary practices and has been a great tool for rice farmers to help pay for expensive long-term management practices and increase conservation work across the entire farm. Congress should ensure CSP continues to acknowledge early adopters while also incentivizing incremental conservation goals through programs. Many rice farmers are struggling to find options within the program that reflect the advancements in technology and workable systems to improve soil health. We encourage Congress to work within the Farm Bill to ensure that the program is offering appropriate options.

However, Congress should be careful not to prioritize one natural resource concern over others. For example, the rice industry, work-

ing with USDA, has made significant investments in conserving the flyways. An essential piece of that strategy is winter flooding, which should be recognized for the many benefits it provides. Winter flooding is an EQIP and CSP wildlife practice that provides moist-soil wetlands in rice fields and attracts a significant number of ducks in the Mississippi Alluvial Valley and the Central Valley and Coastal California regions.

Furthermore, Congress should not prioritize one solution over others. Because rice is a unique cropping system and a 100 percent irrigated crop, conservation programs should not provide one-size-fits-all solutions. For instance, focusing solely on practices like cover cropping that most rice farmers cannot utilize would be inequitable for rice farmers. That is why solutions should be locally led and support local priorities.

I must also mention the importance of RCPP. As you know, the rice industry's symbiotic relationship with waterfowl led to a historic partnership with Ducks Unlimited, called the Rice Stewardship Partnership, which is celebrating its 10th anniversary this year. While we both have separate missions and methods, we have managed to collaborate and develop goals for our partnership, including work on RCPP.

The Rice Stewardship Partnership's RCPP projects have pulled together nearly 100 diverse partners and had phenomenal success in delivering on-the-ground conservation to rice farmers. Since the creation of RCPP in the 2014 Farm Bill, the RSP has impacted over 800,000 acres of rice and rice rotation ground and provided over \$108 million in additional conservation funding.

For the 2023 Farm Bill, USA Rice and DU would note the complexity plaguing RCPP since the 2018 Farm Bill, and that is affecting the long-term viability of a crucial partnership program to rice farmers. Congress should work to address administrative barriers for partners through thoughtful and minimal solutions.

Rice farmers are passionate conservationists. They invest in their own financial resources to bring those farm bill conservation programs to their farm. However, none of these historic producer investments in conservation can happen if the farm is not profitable. I urge Congress to ensure all producers have the safety net to continue to be sustainable both economically as well as environmentally.

Thank you for your time.

[The prepared statement of Mr. Rutledge can be found on page 61 in the appendix.]

Senator BENNET. Thank you, Mr. Rutledge. It is very good to have you with us today.

Dr. Porterfield, you have the last word until the questions. Thank you.

STATEMENT OF DR. SARA PORTERFIELD, WESTERN WATER POLICY ADVISOR, GOVERNMENT AFFAIRS, TROUT UNLIMITED, BOULDER, CO

Dr. PORTERFIELD. Thank you, Chairman Bennet, Ranking Member Marshall, and members of the Subcommittee for inviting me to testify today on behalf of Trout Unlimited (TU). My name is Dr.

Sara Porterfield, and I am the Western Water Policy Advisor for TU.

Today I speak from TU's experience as a partner with farmers and ranchers throughout the country on projects implemented under conservation title programs. With agricultural producers on the frontlines of the climate crisis, these programs, in conjunction with programs eligible for IRA climate-smart funding, have never been more important.

In the West, climate change is manifesting as deep and long-standing drought. Across the region, the 23-year drought has wreaked ecological havoc and forced producers to make difficult choices in the face of severe water scarcity. However, current conservation title programs are not yet fulfilling their true potential because they are too often mired in bureaucratic inertia. To meet the immediate needs of producers, the next farm bill must include legislative clarifications or changes directed at improving program delivery. The farm bill is, after all, for farmers, and without a healthy environment we will not have the robust agricultural economy and culture integral to this country.

It should be noted that current practices like cover crops, crop switching, and prescribed grazing remain essential for protecting agricultural economies and incentivizing producers to experiment with actions that will help adapt to water-scarce conditions of the future. They are not enough by themselves to respond to the real-time challenges that producers are grappling with at scale in the West.

To meaningfully move that dial, five specific actions should be considered, as follows.

One overarching issue that affects agencies' program delivery is insufficient field staff to meet producer demand. This lack of capacity prevents good ideas from coming to fruition and inhibits producers from implementing needed changes to their operations to adapt to climate change.

The Regional Conservation Partnership Program, or RCPP's purpose is to better coordinate NRCS activities with partners like TU to expand and add value to on-farm and regional conservation work. However, RCPP is widely viewed as fraught with red tape that makes it difficult for partners and producers to get funding to the ground effectively.

TU is currently experiencing these burdens with its Gunnison River RCPP, awarded in September 2021, and not yet under contract more than 18 months later. Such delays not only keep producers waiting for the plan benefits to their operations but also prevent realization of drought resilience benefits. In contrast, contracting for a Conservation Innovation Grant project awarded to TU in the same geography, soon after the RCPP, took only three months to execute, and the project is now well underway.

The next farm bill must reduce RCPP's administrative burden by modernizing Federal contracting authority and streamlining the application, contracting, and reporting process.

The Watershed and Flood Prevention Operations, or WFPO, or PL-566 program, has been a valuable tool for States and local organizations in addressing watershed issues. The Colorado River Connectivity Channel, a WFPO project, is the linchpin to con-

necting a fully functioning stream channel around Windy Gap Reservoir while building drought resilience in the Colorado River headwaters.

This project illustrates two common implementation barriers: major delays in approving the required watershed plan and the requirement to monetize environmental benefits. These issues threaten to delay construction, significantly increase costs, threaten vital match funds, and nearly derail the project.

Improvements to the WFPO program in the next farm bill can be accomplished by streamlining program administration and prioritizing projects that provide multiple benefits to watershed health, rural communities, and producers.

Historically, western irrigation infrastructure shared among producers did not qualify for EQIP funding, which meant small to mid-sized water management organizations like acequias or ditch companies were ineligible. The 2018 Farm Bill authorized these kinds of organizations as eligible entities for implementing practices that provide fish and wildlife or drought-related benefits. While this provision was designed to aid western producers, it does not change or distract from the EQIP funding available to farmers in other parts of the country.

Implementation of this provision has been slow and lacked guidance. The next farm bill should require NRCS to publish a suite of practices that can address increasingly scarce water supplies while meeting environmental sideboards and ensuring funding eligibility for the often-overlooked and disadvantaged small to mid-sized organizations.

Conservation Reserve Enhancement Program, or CREP, projects provide an annual rental rate and other incentives to producers who participate voluntarily, retire environmentally sensitive land, and plant appropriate vegetative cover. Recently, CREP has demonstrated success in helping producers on the Great Plains and in the West respond to climate change and drought by decreasing groundwater use.

To optimize CREP's success the next farm bill must increase the land rental rates to be on par with the rates paid for irrigated lands. In addition, allowing agricultural land to have some production value, even if not irrigated, may be critical to creating the economic resilience needed to maintain viable agricultural activities consistent with CREP conservation purposes while incentivizing retirement of sensitive, unproductive lands.

TU appreciate the attention given by this Committee to conservation title programs and western water issues, and I thank you again for the opportunity to testify today.

[The prepared statement of Dr. Porterfield can be found on page 66 in the appendix.]

Senator BENNET. I want to thank the witnesses for their testimonies. It is remarkable, I think, to have the kind of breadth of perspectives that we have had this morning, the breadth of geography that you represent in our country, and also the commonalities that have been expressed all the way along. Thank you. I look forward to our conversation.

Madam Chair, would you like to get us started?

The Chairwoman. Yes, thank you. First of all, thank you very much. Wonderful witnesses. Thank you to all of you, and for your leadership on the Committee, Mr. Chairman and Ranking Member. Always wonderful to be with Senator Boozman, my partner on the full Committee.

Earlier, Mr. Chairman, you were talking about the Dust Bowl, and my mom grew up in Oklahoma during the Dust Bowl. She lived in western Oklahoma and picked cotton on a farm. Her whole family grew what they ate and what they wore and so on. Hearing her stories has just reaffirmed for me how critically it is important that we have these conservation programs and that we make sure they work. All of you, all of our farmers, have an important job to do, growing food, fiber, fuel for our planet while, at the same time, protecting our air and our water and our land. Thank you for that.

I have to say, from the water standpoint, nothing is more important in Michigan than protecting our water. Protecting the Great Lakes is in our DNA. We have a little different situation than the West when we are talking about things. It is not droughts. We have to watch for flooding. We have to watch for other issues. We certainly all have a great commitment to what we need to do together and to allow our farmers to do it together.

That is why the conservation tools are so very important. For us, it is about keeping our water clean, and improving resiliency of the land, providing habitat for wildlife. Mr. Flickner, you mentioned that you were not able to participate in EQIP. We have heard today it is oversubscribed three to one. That has been true, absolutely. We now have additional resources for voluntary conservation programs that farmers want, so now we just have to make sure that they work well. I am hearing that loud and clear, and I hear it in Michigan. I understand the deep concern about that.

We have these critical new investments in EQIP and RCPP, which I authored in the 2014 Farm Bill. I have been excited about this but very frustrated with what is happening now. We thought we made changes in 2018, to make these programs work better with less bureaucracy, and obviously we did not. We have a lot of work to do together to make them work better. We have to make sure these resources are effectively used and that we are supporting our farmers to be able to do that. Too much paperwork, too long of a wait on projects is just not going to do it. I am very committed, Mr. Chairman, to working with all of you on this.

A couple of questions. Mr. Bruchez, let me ask you, in your testimony you described challenges with NRCS' implementation of RCPP, and the long days with award announcements and national contracting. These delays have led to projects missing local deadlines, which is of great concern when I hear you say that, and cost estimates escalating and so on. Could you talk a little bit more about your recommendations for what we should be doing to streamline the program?

Mr. BRUCHEZ. Thank you very much, Madam Chairwoman. I can see this in two different ways. NRCS, with their technical assistance program, we knew going into this in our RCPP that in our region their engineering staff was down and they were backlogged. This head gate and with a fish screen on a ditch of that size, relatively innovative, it would have been the largest one in Grand

County, a complex project. I think that it is either we have to get the right engineering staff in to move things forward and build that capacity or make recommendations from NRCS that this be outsourced.

I look at what we did, because we already had experience working in-river with outsourced engineering, that was the direction that we went, and all of that was smooth. It is kind of that decision time for NRCS, is that is this better outsourced to move on or is it possible to build that capacity internally, knowing that especially with engineering staff they just do not have capacity.

The Chairwoman. Thank you. Let me also stress, I am a strong supporter of the NRCS, in general, and know that they have been severely understaffed. We have talked at the full Committee about the lack of technology. Senator Boozman and I have talked about the folks using paperwork here instead of computers and all of the challenges that we have to help fix here, in terms of with resources and so on. There are wonderful projects going on in Michigan right now, but there is more that we can do to make this work even better.

Dr. Porterfield, conservation practices are often described as a win-win for farmers. I mean, they are a win-win-win, actually, for farmers, for environment, for people in our country. You touched on the economic benefits that conservation programs bring to rural and farming communities. Could you highlight some of the economic benefits and speak on the repercussions if we fail to invest in conservation?

Dr. PORTERFIELD. Yes, of course. I am not an economist but I will do my best on this.

I want to give you a project example, or a number of project examples from the Henrys Fork Drainage in Wyoming. This is a drainage that is a tributary to the Green River in the southwestern corner of Wyoming, and drains to the north slope of Utah's Uinta Mountains. We have a fantastic project manager down there, and she started building relationships with producers in that drainage.

She started by working with one rancher on upgrading one irrigation diversion. He used to have to go out, as is quite common, and put up a pushup dam, once, twice, three times a year, depending on how the hydrology went. By helping him to install and upgraded irrigation diversion she helped him save a great amount of time and money from going out there and having to fix that dam every year, potentially multiple times.

From there this producer has gotten folks in the valley on board. We have seen that these irrigation diversion upgrades go in throughout the drainage, saving those producers time and money in their labor costs.

I think, too, when we think about economic repercussions, if we do not have a healthy environment we do not have an agricultural economy, and these things go hand in hand. Taking care of the environment is essential to taking care of agricultural economies.

The Chairwoman. Thank you very much. Mr. Ortiz y Muniz, welcome. We so appreciate you being here. You have underscored the important role community leaders play in building an agricultural community, and the importance of connecting young and beginning farmers with important resources. I very much appreciate your

story and your leadership as a volunteer to help others and provide information. Thank you for doing that.

Can you talk a little bit more about how NRCS can better connect with communities like yours to help our farmers? We know that we have important work to do with small farmers as well as large farmers. I am excited about the things happening in urban areas and on small farms. I think it is such an opportunity in so many ways to create jobs, access to healthy food and to support the right conservation practices continuing.

How can NRCS better connect with the farmers you work with to implement conservation practices on the ground?

Mr. ORTIZ Y MUNIZ. Thank you so much, Madam Senator. What a great question.

You know, I will say that in the farming community, and I am sure my colleagues here can agree, the farming community is about as diverse as the variety of vegetables and livestock and crops that we grow. Every farm is different. Every farm has its own story, its own roots, its own language, its own practice.

I think one way that the NRCS can support farmers, beginning farmers, just farmers in general, is by providing culturally competent outreach, culturally competent technical assistance. I think what that might look like, and I talked about it a bit in my testimony, is sourcing their staff from the local community so that as staffers are doing their outreach are identify what are the specific needs of individual farmers. They already have a jump on understanding the cultural elements, the environmental elements that farmers are facing, whether their community is one that grows rice and flood irrigates or is an acequia community, is an Indigenous tribal community, is one that grows on gray acreage, one that grows on two acres.

The cultural competency piece, I think, is one of the most important elements because as my colleague so greatly explained, it is not a one-size-fits-all type of solution. We really need solutions that are flexible and are knowledgeable of the communities' even historical experience so that when a farmer receives the technical assistance it is already tailored to the challenges that they are already facing.

The Chairwoman. Thank you. Thank you, Mr. Chairman.

Senator BENNET. Thank you, and we will go to Ranking Member Boozman next. Thank you, Madam Chair.

Senator Welch, would you like to go? We know you have got a busy schedule.

Senator WELCH. There is nothing more important than the Agriculture Committee.

Senator BENNET. That is true. That is a fact. Is there anything left to be said? I think you have said it all.

Senator WELCH. I will ask a few questions. We have got some smart people here.

You know, what you were just saying, Mr. Muniz, this is a dilemma because the folks in Vermont have frustrations dealing with the paperwork. There is also a challenge with the personnel, having people on the ground. There are two things here. One is it is immensely beneficial if there can be flexibility. No. 2, there is hell to pay when the flexibility leads to no accountability. Those of us

who want flexibility have to acknowledge the need for accountability. I would be interested in some reactions to how we can achieve both of those.

You know, in many ways the ideal, from my perspective, would be that we have a performance-based goal, and then the accountability is did you meet the goals, as opposed to micromanaging. When there is micromanaging, it presumes something that does not exist, and that is sufficient staffing for there to be a quick turnaround.

How do we deal with that tension? I will start with you, Mr. Muniz. Go ahead, and then we will go to you.

Mr. ORTIZ Y MUNIZ. I think there are several ways. I think that, as my colleague at the end of the table here said, is outsourcing some of the work that can be done, working with community-based organizations, contractors. That is a way, I think, to alleviate the accountability from the NRCS's end. I think at the end of the day—

Senator WELCH. Let us stop there for a second. Be specific as to how that would work. I mean, that is a general statement, but in order to get to a place where there really is flexibility, who, in your case, would that be?

Mr. ORTIZ Y MUNIZ. Okay. First of all I think stepping out of the office. The agricultural community has a lot of great leaders. I know that is the case in every community. Meeting with those leaders, understanding whom they are. In my community, an example is my mentor, Don Bustos, talking to him, building a relationship with him, picking his brain, and then applying—

Senator WELCH. Finding local competent leaders.

Mr. ORTIZ Y MUNIZ. Local leaders, local community organizations, local businesses and contractors, identifying those individuals and championing them and working with them.

Senator WELCH. All right. Mr. Bruchez, do you want to do it, and then we will go to you, Dr. Porterfield.

Mr. BRUCHEZ. Thank you, Senator Welch. So for me, it is the local, but the way that the system is already set up we need to empower our State conservationists. You know, Clint Evans is very aware of what is happening in Colorado. He is very aware of the geographical diversity, of the different Ag diversity, and the amount of time since RCPP was awarded in 2016, that I have heard the comment that it has to go back to Washington, or it has to go back to the national RCPP team. You know, if we empower our local champions, they understand what our needs are and how to get work done, and think that allows for that flexibility, also with the accountability.

Senator WELCH. Okay. Thank you. Dr. Porterfield?

Dr. PORTERFIELD. Yes, I think that we have a really good example in conservation title programs already of one that works very flexibly and is quite successful, and that is the Conservation Innovation Grant Program. We have one on the ground now, as I mentioned, in the Gunnison Basin in Colorado, and that has proved that the flexibility available with a grant agreement like that allows contracting to happen faster. As I said, it took 3 months to get under contract instead of another one in the same geography we are waiting more than 18 months now to get under contract. It

eliminates the layers of contracting that have to take place so that TU, as a partner, can contract directly with those producers to help work for exactly what you are talking about, which is those outcomes rather than getting lost in the specific practices exactly how they have to play out.

Senator WELCH. You have actually had good success with that?

Dr. PORTERFIELD. Yes, yes. We are seeing it right now, the Conservation Innovation Grant right now in Gunnison is looking at how to both expand what is called a LoRa network—it is a radio network for all sorts of different kinds of soil moisture sensors, et cetera, different input—combined with what our field sec calls the auto-tarp, which is a remote-controlled check structure on ditches, and it is going really well out there.

Senator WELCH. Mr. Rutledge? I mean, things are different for rice farming than what Dr. Porterfield is talking about.

Mr. RUTLEDGE. Yes, sir.

Senator WELCH. Go ahead.

Mr. RUTLEDGE. That is correct, and as I mentioned in my testimony, we have had very good success in the RCPP project implementing those conservation practices with our Rice Stewardship Partnership with USA Rice and DU, bringing together over 100 partners to do that. Having USA Rice and having staff available to oversee that and implement those conservation programs has, frankly, worked very well for us, as I mentioned the success of it. I do think there needs to be some tweaks, you know, maybe administratively in the burdensome application process.

Senator WELCH. Do you have some specifics? You know, because we cannot micromanage. We write the legislation. Obviously the hard work is the implementation, and it is implementation at the bureaucratic level. A lot of the folks, as you know, that are in these Ag programs with the government, they really care about good outcomes, and obviously the farmers do and the conservationists do. The more specific you are as to what those tweaks should be, I think the more beneficial it would be to the Chairman and for us to be able to get something that is going to be useful. If you have that, get it back to us. I would be interested.

Mr. Flickner, do you want to add anything here, the last word?

Mr. FLICKNER. Well, that is not good when I have the last word. The State of Kansas—and all I can speak on is what I know about Kansas, but we have had a discussion about the number of boots on the ground and limitations in staffing. We have had some real challenges at the State level relative to leadership and maintaining somebody in that position. My experience at the local and county level, it has been very hard to keep employees.

Case in point, I have an EQIP agreement on moisture sensors that we are using to evaluate the irrigation usage. It started off and I submitted, a stack of paper about this thick for support of what we had done from a moisture sensor installment standpoint, which NRCS wanted weekly crop reports from the crop scout. There was a tremendous amount of detail, kind of the micro-management type of approach.

We submitted that, then went in and visited with the midlevel—well actually, that individual took a job at another county, left, and we were not totally complete with that processing—I went to the

mid-management level and found out that probably about three-fourths of what we submitted really did not need to be submitted. I think that is more of an educational standpoint from the local individual, to know what the requirements are.

Senator WELCH. You know, that is actually helpful, because I think, while we are talking about the frustration, we here can legislate the program, hopefully come up with some money. The implementation is really going to require a partnership, and the local leadership really matters, both with the State folks, and they have got to be all behind this. You know, that person that you mentioned is no longer in the job and is moving around, that is not something we are going to be able to handle here, so there has got to be that local leadership that provides that key for implementation. Thank you.

I am out of time, so I will yield back.

Senator BENNET. Thank you, Senator Welch. Thank you very much for those questions. Senator Boozman, our Ranking Member, please go ahead. Just for the attention of our members, a vote has been called, so Senator Marshall and I will split up the duties.

Senator BOOZMAN. Thank you, Mr. Chairman, and again, thank you for holding the hearing and thanks to the panel. I think this has really been a very, very good session.

You know, it is interesting the IRA dollars is \$38 billion there that is kind of set to the side. It is not in the farm bill. It is restricted to climate change and carbon. As I was listening to the testimony, and the testimony is so good about the problems that you are going through right now—river health, water, fish, water conservation, ecosystem health, climate mitigation, growing food and not paperwork, you know, all of those kinds of issues, small farm EQIP—and I do agree that we have a problem there, you know, small farmers. It is a lot easier to get a lot of money than it is a little bit, so we need to work on those things, improve soil health, the list goes on and on, insufficiency of field staff. Again, that is what we are hearing today, and those things are so, so very important.

So what we have got to do is figure out how we can capture those dollars. I do not hear you asking for a lot of equipment that is measuring the amount of carbon that you produce, so you can turn that into the government. Especially as you complain about the lack of staff in the field and then also just the paperwork that you already have to do, period.

So one of my concerns is we do have potential access to significant amount of money. We have got to figure out how to do that in a logical way.

Then the other thing is I am very concerned about tying our programs, whether it is risk management or it is the conservation programs, to you being climate friendly enough to get it. I think that is a real risk. You know, it is not a one-size-fits-all. You, in your particular areas know best that needs to be monitored, it needs to be looked at as dollars are pushed out. That is something I would really like for you to think about. Again, that is a real concern that I have, and it truly is a threat.

Mr. Rutledge and Mr. Flickner, you all mentioned the importance of risk management. You know, we have talked about a lot of the

things that are kind of the basis of farmers being able to go forward. Tell us how that is valuable, you know, crop insurance, ARC/PLC, the risk management tools. Mr. Flickner?

Mr. FLICKNER. Well, by all means I do not want to belittle or talk down—crop insurance is a very major element of risk management in a multimillion-dollar operation where we are running the kind of dollars we are. Part of that, I guess, comes from my lending background, when I spent 35 years in the business. This business is very capital intensive, and then when you deal with the weather, climate issues, and so forth, one bad year, from a farmer standpoint, may be the final year because you do not have the wherewithal.

So definitely we need to maintain some type of a safety net for that, for the industry, for us to continue to produce the food, fiber, and fuel that we do.

Senator BOOZMAN. You have got to have the risk management in order to go forward—

Mr. FLICKNER. Exactly.

Senator BOOZMAN [continuing]. and do the conservation thing, which is also very important.

Mr. FLICKNER. Exactly.

Senator BOOZMAN. Mr. Rutledge, do you agree with that?

Mr. RUTLEDGE. Yes, sir. You know, as Mr. Flickner mentioned, this is a very capital-intensive endeavor, and we put everything on the line every year to go out and produce the food, fiber, and fuel that feeds the world, not just this country. We have everything that we own at risk every year to do this, and we are trying to do it as sustainably and as conservation-minded as we can, because those natural resources are where we earn our living from, so we are going to take better care of them than anybody will. We cannot do that if we are not in business.

Senator BOOZMAN. Right. Mr. Rutledge—and I think I will kind of throw this open to the panel, but you can start. As I mentioned earlier and talked about the concern about the IRA restricting conservation dollars to only climate and carbon practices, rather than letting local resource concerns be met, and there is room for both, can you talk more about why Congress should avoid prioritizing one natural resource concern over others, or one solution over others?

Mr. RUTLEDGE. Yes, sir, because as has been mentioned here, there are a myriad of natural resource concerns, as many as there are farms, and the practices do not fit everywhere. There is no one-size-fits-all solution to what works best and what best protects our natural resources on any individual farm. Even within one individual farm, mine in particular, I have areas of my farm that I do plant cover crops on and they work very well. I have other areas where I do a lot of rice production, a heavier ground that is not feasible to plant a cover crop. We do winter flooding, and that protects our soil over the winter, just like a cover crop does.

Senator BOOZMAN. Anybody else? Paul?

Mr. BRUCHEZ. Thank you, Senator Boozman. I would just add that a lot of times in agriculture it feels like people are telling us how we should operate our business, but we have to remember that so much of what we do in food production is driven by the con-

sumer market. When we are thinking through these things and what sorts of changes or how policy comes to shape it really is driven by the consumer. Thank you.

Senator BOOZMAN. Right.

Mr. FLICKNER. Senator, relative to the carbon sequestration situation, we at least in our area when we deal with agricultural carbon think about cover crops and those type of things. In Kansas, the eastern part of the State could get plenty of rain, the western part of the State is almost a desert.

Case in point, I have a property in western Kansas, probably about 60 miles from Garden City. Last year it was so dry the corn never set an ear, and the grain sorghum, which is kind of the old standard out in that territory, never set a head. Needless to say, a cover crop uses the moisture. I am experiencing that right now with my McPherson County property, the acreage where I do have cover crops has depleted the topsoil moisture to the point where planting soybeans, which is my cash crop, is going to be a real challenge unless we get a rainfall event.

I think we have got to understand, when we talk about covers and the carbon credit from a big-picture standpoint—I have not signed up for any of the carbon credit programs, largely because there is not a standardization as to what that looks like, in terms of the information are we capturing. I do have some studies with Kansas State University going on to try to evaluate that. You end up with the Wild West, is what I call it, in that arena right now.

Senator BOOZMAN. Mr. Muniz, can you jump in real quick, or the Chairman is going to yell at me. I am over my time. As a small farmer I really am interested.

Mr. ORTIZ Y MUNIZ. Thank you, Senator. I think one way is to look at the Agriculture Resilience Act that the National Young Farmers Coalition endorses this, and it talks about six key pillars that I think will address the myriad of natural resource issues. It is increasing research, improving soil health, protecting existing farmland and supporting farm viability, supporting pasture-based livestock systems, boosting investments in on-farm energy initiatives, and reducing food waste.

Senator BOOZMAN. Very good. That sounds like six great pillars. Thank you, Mr. Chairman.

Senator BENNET. Yes. That sounds like a pretty good list.

We have been joined by Senator Klobuchar from Minnesota. Thank you for coming, and thank you, Senator Boozman, for being here this morning.

Senator KLOBUCHAR. Thank you. Thank you, Senator Boozman. I was thinking that you have a lot of ducks in Arkansas, with Ducks Unlimited. We have Pheasant Forever in Minnesota, and I have always been a big fan of some of the conservation provisions in the farm bill and how we have been able to work all of this out with your leadership, Senator, and with Senator Stabenow, and of course the great Senator Bennet, so thank you for that.

Mr. Flickner, information on the economic environmental benefits of soil health is still not quite there. Senator Thune and I introduced legislation to improve the use of conservation data analysis, as I listen to you talk about how important it is. Can you talk about the importance of having that information that compares

yield rates to rates of cover crop and no-till adoption or other conservation practices, how that could be helpful.

Mr. FLICKNER. Senator, we have been experimenting with Kansas State University of several studies relative to cover crop usage and the economic returns. Again, my experience has been, because of the dry climate we have, typically what I have seen is there is an economic drag with the use of cover crops, largely because we are using moisture, subsurface moisture, that we may need for our eventual cash crop.

I also want to admit that there are more things. As I addressed in my testimony, my intent is to leave the farm a better place than what it was when I found it. I do not want to belittle my forefathers, when they came over in the 1870's and used the moldboard plow to plow the prairie, because if they had not done that they would not have survived, but today we do know that extensive tillage can have some dramatic effects.

So, there are two ways you look at that. One is the true economic return, and that has been a real struggle for the territory we are in. I do believe we should leave the soil in a better condition than what we found it. If we can increase organic matter, if we can absorb more rainfall—when the rain does occur, and it will rain in Kansas one of these days—that there are some real benefits to that.

So I think that is the challenge we have, from a producer standpoint. You have got to be viable, profitable from an economic standpoint—

Senator KLOBUCHAR. Understand.

Mr. FLICKNER [continuing]. but on the other hand, there are things we need to do leave the ground in a legacy form.

Senator KLOBUCHAR. I think that is part of Senator Thune and I also, given that our States are somewhat similar when it comes to Ag. I introduced the CRP Improvement Act to have cost-share improvement, as you know, opportunities for grazing infrastructure, an increase in the CRP annual amount, the limitations, and State acres for wildlife enhancement. We have also looked at disincentives for native sod to cropland, and we have provisions that have already been signed into law.

So I agree with you. It is a balance, but we want to create those incentives.

One area that I think would be helpful, and you have kind of referenced this, is using technology, as best we can, and that is this precision Ag, which a lot of us are into. Senator Fisher and I actually have a bill on low-interest rates to farmers for investments in precision Ag. Could you talk about how that would be helpful, to get more precision Ag and make it more affordable?

Mr. FLICKNER. Well, we do know that the industry, life in general, is moving very rapidly. There is a lot of new technology. Case in point in my experience, 22 years ago we installed our first subsurface drip irrigation system. The technology was developed in Israel. One of the first ones, I believe, I was one of the first two in the county to do that. There were some issues with that. I ended up with a bunch of problems with it because of an install that was done incorrectly. It is upside down, and some things like that.

It was interesting. After I did that, a year later is when cost-share became available. The challenge you have being an early adopter and using some of this technology, when you get too far ahead of the curve, you do not end up having the ability to have as much assistance in that area.

Senator KLOBUCHAR. Right. Technical assistance would be helpful.

Mr. FLICKNER. Technical assistance. Financial assistance.

Senator KLOBUCHAR. You just a pioneer, Mr. Flickner.

Mr. FLICKNER. Well—

Senator KLOBUCHAR. What you are saying is that you are never going to get wide scale option without the technical assistance.

Mr. FLICKNER. Correct. Correct.

Senator KLOBUCHAR. Okay. I just want to change to another topic, and that is to you, Mr. Rutledge. The U of M, University of Minnesota—you know, we are in Michigan territory—well, there is only really one Golden Gopher university—is on the cutting edge of developing new crops and hybrids that are hardy for harsh winters, resilient to changing climate, and resulting in efficient and productive yields. We all know Norman Borlaug studied at the University of Minnesota, even though he is from Iowa.

Many of the crops, like Kernza, will have an immediate impact on farmers' ability to support conservation efforts like reducing soil erosion, improving water quality. Could you speak to the role that research is playing in the development of innovative production and conservation practices?

Mr. RUTLEDGE. Thank you, Senator. Yes, I think that is the goal of land grant universities is to continue to do research to make us more efficient, more productive, and better stewards of the resources that we are given to oversee. Yes, funding those land grant universities and agricultural research is of utmost importance for the industry as a whole and for our country, and for food security.

Senator KLOBUCHAR. Thank you. Mr. Ortiz y Muniz, the voluntary conservation programs, like EQIP, are especially popular with young farmers, yet I have heard in my State voicing concern that they have a lack of information about whether it is cost share or other things, and makes it even harder when they are brand new at the job.

What steps does Congress need to make to make these programs more accessible to young farmers and ranchers?

Mr. ORTIZ Y MUNIZ. Thank you so much, Senator Klobuchar. I appreciate the question.

You know, I think there is a myriad of steps that Congress can make to provide access to farmers, new farmers to programs such as EQIP and whatnot. I think one of the ways, and we have talked a little bit about that, is looking at supporting the organizations, the contractors who are already doing this work, so that they can help to fill the gap that NRCS and EQIP are unable to complete with, whether it is staff shortages or just not having the cultural competency piece in their own office.

I had mentioned to Senator Welch, the technical assistance and conservation planning is a really critical tool and a first step in evaluating a producer's resource needs. I think that Congress should direct USDA to reserve a portion of conservation technical

assistance funds for the pilot program to increase the capital of NRCS and other local service providers to better assist small-acreage producers in developing conservation plans and applying for EQIP financial assistance.

Senator KLOBUCHAR. Very good. Well, I want to thank all of you. My State is actually in the top five when it comes to enrollment in these conservation programs. We have always seen the benefit of them and how important it is. Not only do we have a lot of hunting and fishing in our State—I used to have some great statistics on how much money we spend on worms, but I am not going to go there today. We also have really, really thriving Ag communities. I thank you all for seeing that important part of the farm bill, and thank the Chair for having this hearing today. Thank you.

Senator MARSHALL. [Presiding.] Thank you, Senator Klobuchar. We appreciate your comments, and indeed I have enjoyed some of the agriculture up in your State as well, and indeed soybeans and corn, a lot of the same crops.

Senator KLOBUCHAR. Yes, I think we met the first time when you were in the House, right? You were there up with Collin Peterson.

Senator MARSHALL. Yes, trying to figure out what sugar beets were all about. Exactly. Well, thank you again, and I have got a couple of questions for our witnesses. I will start with Mr. Flickner.

Mr. Flickner, like you, our family farm was more in the eastern third of the State, with more of a climate like where you live. The farm I live on now is more like 150 miles west of there. Could not be different, the rainfall, the soil. When we talk about cover crops, where do cover crops not work well, and what would you recommend for a better conservation practice, or what have you found useful? You are in four counties as well, so I think that is why I think it is a great question for you.

Mr. FLICKNER. Senator, if I had the answer to that one I would not be here. How is that?

Senator MARSHALL. Okay.

Mr. FLICKNER. No, you know, again, as I addressed earlier, my experience with cover crops, they are very reliant on the moisture that you get. Now realize three of the four farms we have are not irrigated. They are truly in western Kansas. The McPherson County property is irrigated, but I do not use irrigation water for cover crops because the State of Kansas gives a certain allocation of water for your use and producers have to make a management decision if you are going to use the water for the cash crop and not for a cover crop.

Now, one of the things that I have done and have been reasonably pleased with has been that I have been introducing winter wheat into the rotation. I guess in the true sense of the term that that is not really a cover crop, because what I do is I plant corn, harvest the corn in the fall, then plant wheat in the corn stubble, take the wheat to harvest, and then plant soybeans after the wheat, so we have a growing crop in the soil the entire time. That has worked reasonably well if we get sufficient moisture. I have been very pleased with that one.

As I said earlier, for this year's cover crops, we are holding off on soybean planting, largely because the cover has depleted what little bit of moisture we did have. I do not have a seed bed to get

the soybeans growing, though as we have looked at the weather forecast it looks like maybe we are going to get some rain next week, and so maybe we will get that problem solved.

You know, the eastern third of the State of Kansas, I think typically gets enough spring rainfall that allows for that. You go to the western two-thirds of Kansas, not so much so.

Senator MARSHALL. Thank you. My next question is for Mr. Rutledge. I want to talk a little bit about your experience with DU. Certainly I have said once or twice here that farmers and ranchers were the original environmentalists, but right behind them have been the hunters and the fishermen and women as well. Certainly it is a group that puts their money where their mouth is, and the Pittman-Robertson is a great example of some of those funding. Of all the wildlife conservation groups, DU has certainly been a shining beacon across the Nation, from Kansas to Arkansas to Minnesota and places in between. I am very proud of the work I personally have done with DU as well. I mentioned earlier their impact on the playas. I just think that the DU emphasis on habitat development has had a huge impact on conservation and preservation.

Can you just dive a little bit deeper into some of your favorite DU projects? I know you have mentioned them broadly, but just tell me exactly what they do. Paint that picture for me.

Mr. RUTLEDGE. Thank you, Senator. Yes, I guess their best project, that I am most proud of, I think, not because I am involved, is the RCPP partnership that we have with them. DU came to the industry, recognized the symbiotic relationship there between rice and ducks, and the habitat that we provide in the winter flight ways. They have been very instrumental in that partnership, bringing millions of dollars in conservation funding to the rice production area that provides that winter waterfowl habitat that we do, just as a natural means of producing our crop.

Senator MARSHALL. Make sure I get this right. This is why DU is one of my wife's and my favorite charities of choice is that they leverage government money, with DU moneys, with local moneys, and then oftentimes they will bring even local workers and hands-on and may bring in a bulldozer or a tractor and use everybody's efforts to do a project.

Mr. RUTLEDGE. That has been the great thing about this partnership is that it has truly been a partnership, and as you mentioned, leveraging those Federal dollars. That is the great thing about these conservation programs. They are cost share. We are putting our own money where our mouth is, as DU is, as rice is, as the farmer is, and using those Federal dollars to improve our conservation efforts.

Senator MARSHALL. Great. I will go back to Mr. Flickner again. Sometimes you cannot find money for good conservation practices but yet you have a history of doing those practices anyway. Tell me more from the heart, why do you invest money in these conservation practices even though it does not pencil out, as an agribusiness person?

Mr. FLICKNER. Senator, it is because of my desire to leave the farm or the ground that we own in a better condition than what I found it in, trying to be a good steward of what the Lord has pro-

vided us, and pass it on to future generations. A lot of times what I have done is I have not pursued cost share to do conservation work but I did the work myself, which normally is a little bit cheaper, in the long run, or it can be. Again, it comes back to the desire to leave my farm in much better shape than how we found it.

Senator MARSHALL. Great. I think that is true for every farmer and rancher I have gotten to know, is that you do not get rich farming but certainly what you leave your children is that inheritance is the land itself, the opportunity to grow your own groceries, just great times.

I will start back with you, Ray, and I may ask some other folks as well. Let us talk about the lack of efficiencies that go on with USDA and FSA and NRCS. Just be as specific as possible. You know, if you were king, what do you wish USDA was doing more efficiently?

This is my chance to speak to staff. Here is a simple example. We had a huge fire in the western part of Kansas. Not only did we lose thousands of cattle but we lost thousands of miles of fence. And the NRCS officer simply could not get out there to do that inspection before or after, and that was a big holdup. You know, why cannot we have a drone go out and do a video? Why cannot the farmer or rancher do a video and send that in to the person? It is not like we are going to drive across town and walk 10 miles of fence line to document that we put these fence posts in at exactly 39 inches of depth, and there are five strands. Why cannot we just document that and send it in?

Ray, do you have any common-sense advice that we could do that would be more practical?

Mr. FLICKNER. Well, I think the key, Senator, on that one is, this is a people business. We are all dealing with people. As I addressed a little earlier, the staff turnover has been a struggle that I have seen from the State level down to the local level, training new people, trying to get them up to speed. I think we have got to figure out how to get people there that have the background, that understand.

I have been fortunate that I have some mid-management people that understand my operation and will call me and let me know about different things that are available. Without them I probably could not keep up with all the activities that are there.

So again, I think we have got to figure out how to get the people with the right resources there.

Senator MARSHALL. I think that is a good point. I think sometimes the people at NRCS and FSA feel like we are beating them up, and that has not been my experience at all. I got an email yesterday from my FSA officer about something on our farm. I do appreciate the work they do, but somehow we have got to empower them more and more. As the populations decrease in these rural counties, and you have one NRCS officer for suddenly three counties, and these counties are not 10 miles across. These counties are 60 and 90 miles across, as well, so what technology we can use.

Maybe, Paul, what about you, Mr. Bruchez? Please go ahead.

Mr. BRUCHEZ. Thank you so much. My experience with this has gone in two different directions. We had a field fit that was author-

ized via telephone and FaceTime from the field with an engineering blunder. Those relationships matter so much. The engineer knew myself, knew our contractor. We had worked on it and we were able to field fit it based on some technology that worked out fantastically. That was based on relationship and having trust between one another. That local authority and having different field offices be able to represent and champion those sorts of decisions, because those are the folks that know the people on the ground.

Senator MARSHALL. The FaceTime is a great, simple way to do some of the inspections, it would seem to me, and eventually you have got to sign that you have done the work anyway, and if we come back three years later and say we are here for a different inspection and we see X, Y, or Z, you are still accountable. Senator Welch had a great point about accountability as well as efficiency.

Mr. Ortiz y Muniz, any other comments about efficiencies, what we can do, how we can do our job better? You mentioned some earlier, I understand.

Mr. ORTIZ Y MUNIZ. Yes. Thank you so much, Senator. I appreciate you.

You know, if you had posed the question, if you could choose or if you were at the helm, I would say looking at supporting more peer-to-peer programming. Farmers Teaching Farmers is a great tool. We often see that in New Mexico. For us, small farm EQIP, and I know that we are sort of different in northern New Mexico than the rest of the Nation, back to the diversity of farmers.

New Mexico has an NRCS small acreage initiative. I think modeling that is a great opportunity to look at the smaller producer out there, again, back to the Agriculture Resilience Act.

Then, you know, programs that could really support farming families passing on the tradition to the next generation so that it is actually sustainable, keeping farmland, farmland is so important. I am seeing, in just my short life, in the last 10 years, the amount of farmland that is not being used and then it is being developed for small ranch houses that are not being farmed, I think poses a huge risk not only for our environment but for our great tradition that is agriculture in this wonderful nation.

Senator MARSHALL. I appreciate that and I appreciate the peer-to-peer opportunities. I very seldom do a roundtable when I do not learn something. We had some senior citizens and we were talking about Medicare Advantage, and the best education was not from the government. It was the seniors who had been through the process before, saying, "We met this roadblock and we did this." I appreciate that.

Maybe I will close with Dr. Porterfield. Any other efficiencies in your line?

Dr. PORTERFIELD. Yes. Thank you, Senator. Two specific recommendations, I think, to help NRCS capacity issues, which is wrapped up in efficiencies, of course. One is that there is a certification process for individuals, private businesses, NGO's, et cetera, to become TSPs, or technical service providers. There is a disincentive to that because there is a cap on the rate that those TSPs are allowed to charge, and from what I understand it is far below market rate. There is not an incentive for individuals, for a private engineering firm to get certified as a TSP because they cannot charge

enough money to make it worthwhile. Changing those caps can help other folks add to the capacity of NRCS.

The second, again to go back to the contracting piece. I pointed out in my testimony that changing the RCPP contracting agreement from a partnership agreement to a grant agreement will really help partners like DU, which you spoke to, and TU, and many other NGO's acting as partners, get that technical assistance to producers and help improve that capacity and get those benefits to the ground more quickly.

Senator MARSHALL. I appreciate those comments, and I might ask my staff or the Committee staff. TSP, is that the same type of technical help we need with some of the carbon bill we did earlier in the year that we are trying to get people certified on giving the carbon credits for agriculture? I would just like some followup on that, because it is the same problem and might be two different programs.

So I want to say thank you again. I do need to run to another committee. We are running back and forth and voting. That is the way it happens on Thursdays, so thank you to everybody for being here.

Senator BENNET. [Presiding.] Thank you so much, Senator Marshall, for your leadership here, for participating, and we will see you later. I appreciate it.

Just on the TSP point at the end, Dr. Porterfield, this is not what I was going to ask about but I walked in on it. Could you say a little bit more about why the current situation limits the capacity that might be out there, and how lifting those caps or changing those requirements, would add to capacity? I mean, a lot of these projects are in, by definition, rural parts of America, where it can be hard to keep up with the cost of living, in some respects. Can you talk about that a little bit?

Dr. PORTERFIELD. Sure. Thank you, Senator, and I am more than happy to get you more information on this after the hearing too. I think that what Mr. Bruchez spoke to in the difference in time for engineering is a piece of this as well, between private engineers and the NRCS engineers. Allowing, from my understanding and speaking with our field staff who are on the ground working with these programs and with producers every day, is that if there are an increased number of TSPs available, that helps with things like engineering bottlenecks. You have more people available to work on the engineering work, for example, that needs to get done. With a disincentive with below market rates that they can charge, there is not an incentive for there to be that additional capacity from other businesses and non-NRCS.

Senator BENNET. Could you also talk—and I am going to come to Mr. Bruchez and ask him about this—you also said, in your response to this question, that you thought that it might make some sense to adjust the RCPP program so that it were more of a grant program. Can you talk about that, about why that might help?

Dr. PORTERFIELD. Yes. I think to contrast RCPP, our two Gunnison projects are a perfect example. The Gunnison RCPP was awarded in September 2021, and it is not yet under a contract. We are waiting on a supplemental agreement for technical assistance right now. If that does not get done in the next couple of months

we might have to push our construction season another year, to fall of 2024 instead of 2023. We were originally planning fall of 2022. This is, at this point, an 18-month contracting process and it is not finished yet.

By contrast, the Conservation Innovation Grant, that contracting process was done in three months because there is not this kind of layer cake of contracting that has to happen under a grant agreement. It expedites getting that money out onto the grounds rather than getting stuck in this loop of getting contracts done and going through review at the national office, et cetera.

Senator BENNET. Mr. Bruchez, do you have a view on that as well?

Mr. BRUCHEZ. Yes. Thank you, Senator Bennet. When I think of this RCPP, Trout Unlimited is the lead partner, and when a producer would go to contract with the NRCS, unless that producer shares their contract specifics with the lead partner, Trout Unlimited, sometimes even as a lead partner they are not even aware of what is happening financially until it comes back through reporting from the NRCS. There is this data gap that ends up occurring when, as a lead partner, I would think that they would want to know, real time, how that is happening and why it is happening.

I want to stress in that, too, within a program of a grant, without Trout Unlimited, without American Rivers acting as conservation partners for our ag work it would not be possible, and I would state that it is very likely that my family and many of our neighbors would not be around producing anymore, based on the significance of this project. The amount of time and strain that has put on those organizations, if there was a grant program that allowed also for some staff time for these organizations to be able to participate with us as partners in this. Because I think no matter how much we tighten what a program can look like when it is a large-scale regional conservation partnership program—it is a big project—you know, that is a way to fill that capacity perhaps without it relying exclusively on NRCS staff.

Senator BENNET. Thank you. I have one more question for you, Dr. Porterfield, and then I will go to the other witnesses. I know you are familiar with the droughts that we are facing in Colorado and Kansas, and as you noted in your testimony the last farm bill had multiple provisions to help producers, and water managers, to cope with water scarcity. USDA has never fully implemented many of these provisions.

For example, an authority under the Conservation Reserve Enhancement Program, the CREP Program, Senator Marshall and I introduced a bill just earlier today—we can do two things at once. We can be here and introduce a bill together—to improve this program. I would just ask which specific programs could USDA implement today that would be helpful in the context of this drought that we are facing? What more can the agency do to help protect water resources that are critical to fish habitat and to agriculture?

Dr. PORTERFIELD. Yes, thank you, Senator. I think one of which I spoke to in my testimony, which is the Water Management Entity Provision, under EQIP, that allows for the small to mid-sized organizations, multi-producer irrigation infrastructure to be eligible for EQIP funding. This gets to the organizations like canal companies,

ditch companies, acequias, land grant universities that are under this provision, eligible for EQIP funding to work on, do upgrades to that multi-producer irrigation infrastructure. Under the 2018 Farm Bill there were provisions that those projects will have drought resilience benefits and environmental fish and wildlife habitat benefits.

So I think implementing that. The rollout for that has been very slow and very unclear, but that is one, certainly, that could be implemented now.

Senator BENNET. Thank you. And to Mr. Flickner and Mr. Rutledge, you both have testified about your firsthand experience with conservation programs that have both benefited the environment and your bottom line. I wonder if you could talk a little bit, before you go now, about the greatest successes you have seen and the greatest challenges you have seen. What can we fix to actually make it more likely that you are going to have success in the future, be able to hold onto that farm or that ranch for the next generation of Americans?

I should have called on somebody first, but you fight it out. See what happens.

Mr. FLICKNER. Well, Senator, I guess probably what would be my greatest success and the one that has gotten me to this point is the fact that, like I said, 22 years ago we started with this Israeli-based subsurface irrigation system and the resulting efficiencies. I am blessed in our area that we are part of the High Plains-the Equis Beds and not the Ogallala Aquifer. I do have a reasonably good recharge ability in the aquifer, and they say that if we can cut our water consumption in the aquifer by 10 to 15 percent that it would be sustainable, and actually may go back to where we were 15, 20 years ago. We are down about 15 feet in the last 20 years, but we do not have a real depth of saturation either, so we have got to watch that.

They say McPherson County has more subsurface drip irrigation than any other county in the State of Kansas. We were early on and subsurface drip irrigation proved to be something that was very beneficial, and I think moving the water conservation in the right direction. I think that would probably be my greatest success up to this point.

The challenges always have been—and I addressed a little bit before—the challenge farmers have is if you are an early adopter you are doing some things out there that probably should be done, from a conservation standpoint. Then you go, to NRCS, and want to sign up for a program. Little assistance is for what you have done. It is what you are going to do. You have to implement a new practice. There is a joke going on in the community that some of my neighbors are saying, well, we will go out and get our moldboard plow out and go plow our no-till ground so that we can end up with the carbon payment type of a situation.

Senator BENNET. Right. Right.

Mr. FLICKNER. I think that whole challenge of where we are going and how we are going to get there in terms of a funding and staffing standpoint has to be the No. 1 frustration.

Senator BENNET. Mr. Ortiz, I am going to you and ask you the same question after Mr. Rutledge. Go ahead.

Mr. RUTLEDGE. Yes. I think one of the biggest successes, really, a lot of the conservation programs have worked very well, RCPP in particular with our partnership with DU. I think that has, as Dr. Porterfield said, I think a lot of those issues that have been there in that program can be addressed administratively, or just removing some of those bureaucratic layers instead of the wholesale grant, changing into that. I think it can be fixed with smaller changes than that.

The CSP program was very successful for us, very helpful as producers, you know, incentivizing people to put in new conservation practices but also rewarding producers for doing conservation practices that may cost money to do, to implement. For instance, after the 2014 Farm Bill, the CSP program, in my county alone, had over 100,000 acres enrolled, and brought in \$15 million to the county. That is a big economic boost to the rural economy. After the 2018 Farm Bill, since that time our contracts are now around 9,000 acres and \$1 million. That is the gutting that CSP program took in our area.

Senator BENNET. Thank you. Mr. Ortiz y Muniz?

Mr. ORTIZ Y MUNIZ. Thank you, Senator Bennet. I would say that in northern New Mexico, over the last 50 years, we have seen so much culture loss, fallow land, you know, issues with water and wildfire. I would have to say that I am blessed that in the last 10 years I have had the honor to participate in an agricultural sort of revolution that is happening in New Mexico.

I think that the work that Don Bustos has done to bring farmer training to our community, identifying the great opportunity that we have having farmland, having an agricultural tradition, that legacy, having access to surface water and the infrastructure to deliver that to the farm, really just takes a little bit of learning to jump into a career that can be very fruitful.

Ten years ago there was one-tenth of the amount of farms that there is now, just in the south valley of Albuquerque alone. In northern New Mexico I have seen, you know, when 10 years ago we were 90 percent fallow land. We have seen a rise where now we are about 70 percent.

Being a part of that and being able to teach and educate and bring this conversation to this stage is a great honor for us. We believe that being able to take our traditional and Indigenous agricultural practices that are regenerative at its core, couple that with biodynamic and organic agriculture and identify what works, is, I think, the future.

Being able to, as a young person, look back at the legacy of my grandfather and 10 generations or more of farming in my community, and seeing our community struggle to maintain that but also to see the incredible value of what it is my colleagues are doing and where our country, where our world is headed, I think that is part of my greatest success in life, is to have leaned toward our land-based ways of living and knowing it is the pathway for me for the rest of my life.

Senator BENNET. And while I have you here, representing young farmers in New Mexico and across the country, if you were thinking about changes you would want to see. It does not necessarily have to be in the farm bill programs, but a couple of changes you

would want to see, on behalf of small farmers to make sure that they can become the next, in the case of people that have not yet farmed, become the beginning of another six generations or can become the seventh or the eighth generation. What are a couple of things that you would say are barriers that we would like to work on getting rid of?

Mr. ORTIZ Y MUNIZ. Yes. You know, I think that having programs, or even just the application process tailored to the small farm producer, making it easy for us to apply, streamlining those processes would be incredibly helpful. I think any program that allows us access to land. Many small farmers are leasing land, borrowing land. Having access to land ownership or a pathway to land ownership I think could be very powerful.

And again, the peer-to-peer piece on small farming is incredibly huge. I mean, we tied one or two farmers in northern New Mexico, they created this incredible change, and that is a peer-to-peer example that should be really modeled to help take us into the future.

Senator BENNET. I mean, I really do think that is a way. If you look in the past, that is the way that we have made the most progress in American agriculture is one farmer starts experimenting, starts to look at maybe making some change, and then others start to look over the fence and say, "What are you doing, and maybe this is something we should be doing."

I agree strongly with the view that other people have expressed today, that one-size-fits-all approaches, when it comes to American agriculture, does not make a lot of sense. We are living at a moment when climate change is bearing down on us, when drought is bearing down on us, at least in our part of the country, and I think it is going to be really, important to make sure that we are together, putting American agriculture in a position to innovate, and to be able to measure, and to decide, as Mr. Flickner was talking about, whether or not we are really improving soil health or was it just an idea that somebody had somewhere?

Because if you can get to a place where people are persuaded that we can measure it, I think that is a place where we are going to see producers all over this country grab ahold of what they can do in their region around issues of soil health. I think answering that question is going to be so vital for the next generation of Americans and the generations coming after that.

So I am going to let you all go with one final question, which is if you had one thing—and it does not have to be about the conservation programs, although that would be great, since that is this Subcommittee—but if there is one thing you wanted the Agriculture Committee to know going into this farm bill, on behalf of the farmers and ranchers that are in your communities, what is the one thing you would want this Committee to know?

Why don't we start, Mr. Rutledge, how about with you and then we will go to Dr. Porterfield, and come back around.

Mr. RUTLEDGE. Thank you, Senator. I think the one thing that I have mentioned earlier, I think the safety net is very important for farmers. It is a risky business, capital-intensive business, and if we are not in business then we are not producing food, we are not conserving resources, we are not in any of those practices, and

we are not passing it on to the next generation in a better condition than we got it.

Senator BENNET. Thank you. Dr. Porterfield?

Dr. PORTERFIELD. Thank you, yes. I think, I mean, we have discussed this ad nauseum today, but I really think it is streamlining the bureaucracy, making the portal easier to use, making the application process easier, the contracting process easier. Anything that can get this money on the ground, where it needs to be used and put to work, that will help us.

Senator BENNET. Mr. Bruchez?

Mr. BRUCHEZ. Thank you, Senator Bennet. The takeaway would be that we love to grow food and we love to take care of the soil. Our regional NRCS office currently has two staff members, when not very long ago they had up to eight. If we are going to get projects on the ground that are going to have the kind of meaning to withstand adapting to a modern climate, it is time to gear up. Thank you.

Senator BENNET. Thank you. Mr. Flickner?

Mr. FLICKNER. Senator, I am going to hedge on that one. I am going to tell you there are two very important components.

Senator BENNET. That is fine. You can share three or four.

Mr. FLICKNER. One is the risk management. There is no doubt, as we have talked about before, as Mr. Rutledge has addressed, the capital requirements in the business are very large, which have implications for young and beginning farmers too. How do they enter into that deal with the associated costs? The safety net is vital.

Also on the conservation side, how do we conserve our natural resources so that they are here today, and tomorrow it is also just as important.

Senator BENNET. Mr. Ortiz y Muniz, you get the last word.

Mr. ORTIZ Y MUNIZ. Okay, thank you, and I just want to express again gratitude to this body for giving all of us the opportunity to speak today and to bring our stories to this stage.

For me, I think I would like to see an authentic and deep, committed investment into young, beginning, small, traditional, Indigenous, land-based farmers of color by the USDA by the USDA, by our government, by our Nation as a whole, to stand behind our work to save our planet.

Senator BENNET. Thank you. I would like to thank all of you for your testimony. I would like to thank you for suffering the inconvenience of traveling here to Washington to help inform this Subcommittee and broader Committee as we approach another farm bill. One of the great things about this Committee is that it is not a very partisan Committee. You know, we do not have big partisan disagreements among Democrats and Republicans. We do have regional disagreements, which one would expect, because we have different, you know, where we have no water, Arkansas has a ton. I happen to know, although they do pronounce Arkansas the way we pronounce it in Colorado, which is different from how they pronounce it in Kansas, not surprisingly, but with emphasis on the Kansas.

I do think hearing the disparate voices from people from different regions in the country that are facing different things, and being able to get your suggestions firsthand about what we can do to

make things better for people, that is our intent, even though sometimes it does not seem like it. That is what we are trying to do. And I think it is one thing to do your own listening sessions in your own State. You hear a lot. I certainly have learned a tremendous amount over the last decade from our producers in Colorado, and tried to bring their voices here. Being able to bring competing perspectives is also very, very helpful.

I do think we were able, and you were able to tease out some issues and some challenges that are entirely consistent with what I have heard, in the listening sessions I have had, one after another after another. And my hope is that we are going to get to a point where by the time the next farm bill rolls around we will be having a different discussion because we will address some of the issues that you raised today.

So I want to say thank you, thank you, thank you, for being here. Thank you to my Ranking Member, Senator Marshall, for his partnership, both on the CREP bill that we just introduced today, and for his partnership in this hearing.

I would say to my fellow members of the Committee, we would ask that any additional statements or questions you may have for the record be submitted to the Committee clerk five business days from today, or 5 p.m. next Thursday, April 27, 2023.

And this hearing is adjourned.

[Whereupon, at 12:16 p.m., the hearing was adjourned.]

A P P E N D I X

APRIL 20, 2023

Statement of Paul Bruchez, Rancher and Owner
Reeder Creek Ranch
Kremmling, Colorado

Conservation in the Farm Bill:
Making Conservation Programs Work for Farmers and Ranchers

Hearing of Subcommittee on
Conservation, Climate, Forestry, and Natural Resources
United States Senate

April 20, 2023

1. Introduction

Chairman Bennet, Ranking Member Marshall, members of the subcommittee, thank you for the opportunity to be here today.

My name is Paul Bruchez. I am proudly the 5th generation of the Bruchez Family to Farm and Ranch in Colorado. Our family ranch, Reeder Creek Ranch, is about 5 miles east of Kremmling, Colorado, on the headwaters of the Colorado River. We run a traditional cow/calf operation. We also run a fly-fishing business.

In 2022 I was appointed by Governor Polis to be the Director of the main-stem Colorado River for the Colorado Water Conservation Board, a role I am very active with today.

Starting 2002, the headwaters of the Colorado River suffered from low snowpack and runoff. Drought conditions took over the landscape. Faced with the same situation in 2003, we recognized the severity of the problems. Our ability to irrigate and to operate a successful agriculture business was in jeopardy. At that time, we decided to get involved and make improvements to our ranch to adapt to the changing environment. The Regional Conservation Partnership Program has been instrumental in surviving the last 23 years of ongoing drought.

Written Statement of Paul Bruchez, Rancher and owner Reeder Creek Ranch
Subcommittee on Conservation, Climate, Forestry, and Natural Resources
April 20, 2023
Page 2 of 4

2. Partnerships are Important

The Headwaters RCPP, known as the Colorado River Headwaters Project, has three main projects, directly impacting 30 miles of the Colorado River.

- The Colorado River Connectivity Channel Project, re-connecting the Colorado River around a small reservoir funded by the Watershed Act, PL 566 under the RCPP.
- The Habitat Restoration Project addresses critical habitat for the 15 miles below the connectivity channel.
- The Irrigators of the Lands in the Vicinity of Kremmling, or ILVK project, addresses 12 more miles of the Colorado and 1.5 miles of the Blue River for 12 different landowners. This project focuses on irrigation infrastructure and river health so that sustainable agricultural production continues in the face of Colorado River water scarcity.

The Colorado River Headwaters Project is a shining example of partnership and adaptation for the State of Colorado. With Trout Unlimited as the lead partner, it includes agriculture, municipal interests, conservation organizations, local, state, and federal government agencies all working together to address river health and agricultural productivity.

The key partners from this project have also worked together on a water conservation project, helping the state to understand high elevation use of agricultural water and other key data to help inform policy decisions. It is now working on an alternative forages project to help producers in water scarce areas and to potentially re-think how water conservation projects or programs can and will impact food and fiber production. We anticipate that future work could be ideal for Conservation Innovation Grand funds, which is more flexible and allows for innovation. All of our existing conservation programs in the Farm Bill can do more to assist producers if they promote innovative practices that are driving a more sustainable future.

Written Statement of Paul Bruchez, Rancher and owner Reeder Creek Ranch
Subcommittee on Conservation, Climate, Forestry, and Natural Resources
April 20, 2023
Page 3 of 4

3. A Story of Contracts and Construction

In January of 2019, my family signed a Conservation Program Contract with the NRCS under EQIP-RCPP. This project had multiple goals. It is the second largest agriculture ditch and diversion in Grand County with a right to divert up to 65 Cubic Feet Per Second from the Colorado River to five producers with water rights. The diversion structure and headgate are on my family's ranch, and we have the largest water right. The project was developed to replace the existing diversion structure and headgate, including a fish screen on the headgate to prevent fish from going into the ditch.

The Colorado River Headwaters RCPP agreed that projects that were built in the river were outsourced to our river engineer "outsourced technical assistance". On-farm projects were from the headgate down ditch, were to be designed by the NRCS, "NRCS technical assistance".

For the diversion structure, outsourced technical assistance, we had a design by July 2019, just 7 months after contracting. We were finished with construction by October 8th, 2019, less than a calendar year from contracting.

As far as the headgate and fish screen, NRCS technical assistance, the first draft of design that I saw was produced on October 25th, 2021. This is 2 years and 9 months after contracting. Our contract technically expired on December 31, 2021. We did not have a plan that we were confident in constructing until after the 2022 construction season ended. We are planning on building the headgate and fish screen this year in 2023, but our contract still has payment commitments from the beginning of 2019. Since then, prices of materials and construction have changed significantly, and it will be a challenge for my family to afford the construction of this contract.

This delay is a good example of the NRCS capacity struggles. The outsourced technical assistance was constructed in the same year as contracted and the final design for NRCS technical assistance took 3 years for completion, longer than the duration of the contract without extension. I would suggest that we evaluate a better approach. Does it make more sense for the NRCS to increase capacity with additional staff or is the NRCS better situated to outsource this design work?

The NRCS has some great folks doing great work. Our State Conservationist, Clint Evans, and State Conservation Engineer, John Andrews, are champions and deserve a lot of recognition for getting projects built in Colorado. They need additional capacity and flexibility.

Written Statement of Paul Bruchez, Rancher, and owner Reeder Creek Ranch
Subcommittee on Conservation, Climate, Forestry, and Natural Resources
April 20, 2023
Page 4 of 4

4. Conclusion

The opportunities created by the Farm Bill and the Conservation Title helped to save my community at the Headwaters of the Colorado River and I am very grateful for the opportunities that exist.

Yet, as I have explained there are some processes and fundamentals that can be improved to streamline process to get projects on the ground more quickly. Administrative burdens, NRCS staffing issues, technical assistance capacity and a lack of flexibility in programs and contracts have created challenges for getting work done on the ground.

This necessary help has yielded enormous benefits and the partnership involved is a model for how the Farm Bill can advance resiliency for agriculture and the environment.

My brothers and I all have young children. We want them to be the 6th generation of agriculture in Colorado. My hope is that there are continued conservation programs that focus on innovation and can adapt to the changing world. Right now is our opportunity to create solutions for future generations.

Colorado River Headwaters Project Summary

Executive Summary

Trans-mountain diversions that supply agricultural and municipal water to Northern Colorado and the Front Range have had a significant impact on agriculture and aquatic resources in the headwaters of the Colorado River. After years of dispute, an array of partners representing local agriculture, local government, water providers, and conservation groups have come together to implement the Colorado River Headwaters Project. The Project consists of three parts: (1) a “connectivity channel” around Windy Gap Reservoir to reconnect the Colorado River (Connectivity Channel); (2) channel and habitat improvement downstream of the Reservoir (Habitat Project); and (3) projects to improve irrigation, soil and water quality, and aquatic habitat downstream of the Habitat Project (ILVK projects). When fully implemented, the Project will directly benefit 30 miles of the Colorado River and 4,500 acres of irrigated lands that provide sage grouse habitat. The benefits of the Project will extend from the headwaters to the state line and beyond. Communities, farms and ranches in Northern Colorado will also benefit as implementation of the Project will enable additional trans-mountain diversions to firm up their water supplies. The Project will help local communities, demonstrate innovative solutions benefiting working lands and rivers, and leverage funding to restore the headwaters of America’s hardest working



Figure 1 Colorado River Headwaters near Kremmling, CO

river. The Project was selected for an RCPP partnership in 2016 and has leveraged significant state, regional, and local government funding, as well as corporate, foundation, and individual donations. In an era of divisive water battles in the arid West, the Colorado River Headwaters Project stands as a shining example of what can be achieved with cooperation and some creativity among water users.

Colorado River Connectivity Channel



Windy Gap Reservoir is a shallow reservoir that increases stream temperature in the Colorado River, interferes with sediment transport, and blocks movement of fish and other aquatic organisms. Stream health and the aquatic environment in this state-designated Gold Medal Trout fishery has significantly declined since the reservoir came on line in the mid-1980s. The goal of the Connectivity

Channel project is to create a channel around Windy Gap Reservoir to eliminate the reservoir’s negative impacts. Following years of heated dispute, the project Partners have come together with the common goal of improving conditions in the Colorado River downstream of the reservoir. After extensive study, the Connectivity Channel was unanimously selected as the best alternative to restore these valuable fisheries and the health of the Colorado River. The \$33 million project began construction in late 2022. NRCS has invested approximately \$17 million of PL566 funding for the project, with the remaining funding provided by state, regional and local grants, along with corporate and private donations.

Colorado River Habitat Restoration

Currently, over 65% of the native flows of the Colorado River (as measured downstream of Windy Gap Reservoir) are transported across the Continental Divide for use in the Front Range and Northern Colorado. This dramatic flow reduction has left the river channel overly wide and shallow, creating poor aquatic habitat conditions. The Colorado River Habitat Restoration project, led by partner Colorado Parks and Wildlife, aims at improving approximately 6 miles of the Colorado River channel downstream of Windy Gap Reservoir to improve aquatic habitat and restore river health. Approximately \$6 million have been committed by Denver Water and Northern Colorado Water Conservancy District to this portion of the project. No RCPP funds were sought for the Habitat Project but, rather, it has been offered as part of the partners' match. The initial phase of the project, improving approximately a mile of the river, was completed in 2022.



Irrigators of Lands in the Vicinity of Kremmling (ILVK) Project

The Irrigators of the Lands in the Vicinity of Kremmling (ILVK) consist of 12 ranches and BLM land spanning over 12 miles of the Colorado River and 1.5 miles of the Blue River. Impacts to these ranches, formerly irrigated by natural flooding of the Colorado River, was specifically recognized in the legislation that created the Colorado-Big Thompson Project, and provision was made for the installation of irrigation pumps to enable irrigation in light of the anticipated reduction of Colorado River flows. As flows in the Colorado River dwindle due to transmountain diversions, the ranchers have been experiencing unsustainable problems with the elevation of the intakes and pump operations. The ILVK Project is a collaborative effort to create solutions in the Colorado River for agriculture, soil and water quality, and aquatic habitat. The Project creates structures that improve both irrigation and riparian/aquatic habitat. The solutions to the irrigation problems work within the overall river system, are sustainable, cost effective and reduce long-term operation and maintenance. The Colorado River Headwaters Project RCPP set aside approximately \$2 million from EQIP for the ILVK portion of the Project. With support from an array of partners, ILVK Project implements on-the-ground measures that demonstrate that a healthy river is capable of providing multiple benefits to sustain agricultural, aquatic and wildlife habitat, and recreation.



Figure 1 Engineered Riffle Grade Control Structure provides reliable irrigation diversions and critical aquatic habitat.

Testimony of Ray Flickner
Owner & Operator of Flickner Farms/Flickner Innovation Farm
Before the Senate Subcommittee on Conservation, Climate, Forestry, and Natural Resources
Conservation in the Farm Bill: Making Conservation Programs Work for Farmers and Ranchers
April 20, 2023

Chairman Bennet, Ranking Member Marshall, and Members of the Subcommittee, it is an honor and a privilege to appear before you today. Even more so two days prior to Earth Day. Thank you for allowing me to present and offer my thoughts as an agriculturalist from Kansas.

My name is Ray Flickner, and I am the fifth generation to farm land west of Moundridge, Kansas. My wife, Susan, and I own and operate farm ground in four counties in Kansas; the base operation is an irrigated row crop operation that has been in my family since 1874. We raise wheat, grain sorghum, corn, soybeans, and brome hay. My family has been blessed to receive recognition for our leadership in promoting conservation and good farming practices. We were presented with a "Success Story" Award at the 2022 Kansas Governor's Water Conference, received the statewide Natural Resources Award given out annually by Kansas Farm Bureau in 2021, were named a finalist for the Kansas Leopold Award in both 2021 and 2022, and received the Kansas Bankers Association Award for Water Conservation in 2021 and Soil Conservation in 2013.

Quick background on what I call my three stages of life. After receiving an undergraduate degree in agricultural education and while completing a master's in education, I taught several agricultural classes at three different colleges in Kansas. In the 1980s I worked for the Federal Land Bank (and vividly remember the 1980s farm crisis) before transitioning to work for the Farm Credit System and then working for a commercial agricultural bank in the Farmer Mac secondary market in the 1990s and 2000s. In 2007, a couple of years after my father passed away, I made the decision to enter the third phase of my life and began tending the land full time. From education, to finance, to full-time farming, each of these phases in life taught me valuable life lessons and allowed me to travel and learn from producers across this great nation. As I prepare to enter the fourth phase of my career, retirement, I have taken the opportunity to travel the world, and just last month toured farms and ranches in Spain and Portugal. My education, my observations, and my life-long experience all indicate the same point: conservation and sustainability has been, still is, and always will be the key ingredient to keep farms and ranches thriving.

As the late, great Dr. Barry Flinchbaugh was famous for saying, without profitability a farm will not be sustainable. I have seen this firsthand in all the phases of my career. Susan and I have been blessed with a multi-generational legacy, and we have committed ourselves and taught our children (who are in turn teaching our grandchildren), that we must leave the land in a better condition than how we found it. But some producers, who may not tend the land and natural resources with care and compassion, find the sustainability – and ultimately the *profitability* – of their land in decline. I have often said when talking about sustainability and conservation management to not bemoan our forefathers because without the moldboard plow in the late 1800s, the acres we farm in Kansas would not be in row crop agriculture. And the best farming innovations and technologies of my father's generation, such as flood irrigation, would not have allowed me to convert 600 acres of my irrigated ground to more efficient sub-surface irrigation starting in 2001.

Without question conservation has been a living legacy on our farm. One example is the shelterbelts and windbreaks my grandfather planted in the 1930s, which, I might add, I used technical assistance from the Kansas Forest Service and an EQIP contract to rehabilitate in the 2010s. Another example is my father developing the second-oldest water right in the township in 1955, and then constructing larger-than-required flood irrigation tailwater recapture pits, which he used as ponds in a commercial catfish operation in the 1960-2000s. During the time my wife and I have owned land we have constructed miles of terraces, built acres of grassed waterways, enhanced the efficiency of our irrigation systems (allowing us to use 60 percent of the county irrigation average), and transitioned to a fully no-till/minimum-tillage operation with cover crops playing an integral role in soil health and soil biology improvements. Additionally, over the past 20 years we have grid soil sampled nearly 1,000 acres on a four-year rotation and used this information to variable rate apply most of our micronutrients, macronutrients and lime to adjust for soil pH. These grid samples show us we are slowly moving the needle in a positive direction on soil organic matter (OM), with some of our agricultural fields nearing 50 percent of the OM in an adjacent native pasture.

My experience has shown me farming cannot remain static but must constantly evolve. Working with numerous local and state governmental partners as well as more than a dozen commercial companies, in 2019 we embarked on the [Flickner Innovation Farm](#) where we are testing various water conservation initiatives, soil health practices, and weed management tools on a production-scale farming operation. K-State Research and Extension (KSRE) and the Kansas Center for Agriculture Resources and the Environment ([KCARE](#)) have been instrumental in truth-testing many of the trials and experiments. I will be the first to say not every trial has borne fruit. We are perpetually learning, reassessing and fine tuning.

Since the inception of the Flickner Innovation Farm we have hosted two summer field days along with two winter meetings during which the [peer-reviewed research](#) was made publicly available. While time and energy consuming, hearing from producers who have taken something they learned from one of our events back home to implement is music to my ears.

During my landowning and farming career, I have utilized farm bill conservation title programs including CRP, EQIP, CSP, and general technical assistance from the USDA-NRCS, USDA-FSA, the county conservation district, the Kansas Forest Service, Kansas Department of Wildlife and Parks, Watershed Restoration and Protection Strategy (WRAPS) and my local Groundwater Management District No. 2 (Equus Beds GMD). I am currently under contract for EQIP-RCPP water management, which has helped offset some of the costs of using soil moisture probes to determine where and how my irrigation water is traveling through the soil. Recently, I have started the application process to ascertain if the Inflation Reduction Act dollars appropriated to NRCS will work for my operation under a potential CSP contract.

I firmly believe Congress should continue to seek improvements for the environment through expanded incentives to encourage voluntary soil conservation and water and air quality programs, and to advance technological and biotechnological procedures that are based on sound science and are economically feasible. Over my farming career I have utilized a combination of USDA cost-share and technical assistance, but most of the conservation practices and experiments I've implemented have been

undertaken without financial assistance. For more than 10 years I have experimented using cover crops and even inter-seeded a multispecies cover crop in corn four to six weeks prior to harvest, with no state or federal cost share. In 2019 I started experimenting with biologicals applied pre-plant, at planting, and foliar once the crop has emerged. On our irrigated ground, we are now applying water 12-18 inches below ground via sub-surface drip irrigation (SDI) on more than 60 percent of our acreage. Some of the tracts of SDI had EQIP assistance but most of the acreage did not have any cost-share assistance on the conversion from flood irrigation. I mentioned earlier I do have cost share to install moisture probes, but I also rely on aerial imagery from satellite, fixed wing aviation, and drones. And I utilize plant-based water sensors, as well as a ground-penetrating radar mounted on a center pivot irrigation system that monitors and provides real-time feedback on how much water each slice of the field can benefit from. The latter three technologies are not currently authorized by USDA for cost share. I do believe they offer valuable insight and assist in managing irrigation timing and application amounts.

On our non-irrigated farmland, we have utilized different programs including CRP, EQIP and CSP. One tract has an approximate 11-acre playa lake and another half-acre playa lake where we have discussed how a CRP SAFE contract or the Wetland Reserve Easement program might work. Recent farm bills have helped provide more access to both emergency and managed haying and grazing on our CRP acreage, but still more could be done. A vast amount of the CRP acreage in Kansas is enrolled within the CP-25, rare and declining habitat conservation practice. Allowing for additional ruminant grazing, plus grazing earlier and for more of the growing season would be a significant benefit to wildlife, the grassland ecosystem, and the producer's bottom line. While I do not own any livestock currently, I have heard integrating livestock has a significant benefit to soil health and the wildlife in permanent vegetation environments if managed appropriately. At a time with high commodity prices, multiyear drought, and declining CRP acreage, allowing additional haying and grazing flexibility is a way to show landowners CRP can become more of a working lands program as opposed to what many see as a land retirement program. Furthermore, I believe it is imperative the CRP be refocused on the most marginal cropland. A few specific ways to improve the CRP program moving forward include increasing payment rates on the most marginal cropland while disincentivizing CRP contracts on higher producing farmland, and providing additional assistance to producers wishing to fence and establish a water source on CRP lands.

From my experience with both EQIP and CSP, USDA conservation programs need to be streamlined and simplified. The recent "Act Now" funding NRCS has access to is a step in the right direction to maintaining a continual sign-up period rather than annual opportunity to enroll. Credit goes to my local USDA service center supervisor for knowing my operation, the programs I am interested in, and how conservation programs (with never-ending changes from USDA headquarters and the state office) might work on my operation. Without their frequent communications, or without the USDA service center's knowledge of my prior interest in certain programs, I would have missed the sign-up application window. Additionally, my firsthand experience farming in four different counties across the state of Kansas has emphasized to me that "one-size" nationwide, or even statewide, policies do not work. Congress should give the freedom for farm bill programs to be administered at the local level whenever possible, with adequate oversight and quick approval from the state office when absolutely necessary. Allowing and encouraging producers like me to work hand in glove through the local delivery system with the conservation district is a more effective way to implement conservation work more quickly across the nation.

Recently it has become painfully obvious that conservation efforts are being set back because there are not enough boots on the ground. I have relied on the technical assistance of local conservation experts and there have been multiple occasions when conservation implementation was delayed because of a lack of workforce. Based on congressional appropriations and legislation over the past couple of years, it seems there is funding available to implement conservation work, and I referenced above my CSP application, but without employees who know how to work on technical assistance, the funding may not be put to good use on farms and ranches across the nation. Furthermore, in a state like Kansas it is imperative to keep tackling the most important conservation challenges – water quantity, water quality, and soil erosion due to wind and rain.

While this full committee is responsible for authorizing conservation practices within the farm bill, I do need to flag the differences between USDA conservation funding being included as income in my farming operation and EPA's Section 319 funding, which I have received due to my involvement in the WRAPS programs; the EPA funding is not counted as income. This is something the Senate Finance Committee might wish to look more into because if the intent is to have landowners improve natural resources for the public good, why are the two sources of conservation related cost-share dollars provided to agricultural producers taxed differently?

Finally, I would like to mention that most producers, myself included, try to be the best stewards of our limited natural resources as we can. I have completed numerous conservation initiatives without any local, state, or federal cost-share assistance. I have done so because I believe the land, water, wildlife, and other natural resource improvements will endure well past my lifetime. I have planted hundreds of trees with my grandchildren, praying these trees offer shade to their own grandchildren – perhaps a ninth generation of Flickner farmers. The joy of being able to work side by side with my own children and grandchildren nurtures my soul in ways no amount of monetary compensation ever could. Watching my nine- and six-year-old grandsons chase butterflies through our pollinator habitat or grab the frog net looking for tadpoles at the edge of the fishponds we still use today gives me great peace that not only I, but my forefathers, did the right thing in creating a resilient farming operation. The motto of the Flickner Innovation Farm is “growing for the future” and I believe by each generation leaving our lands in better condition than we found it, there will be many more years of blessings provided because we continue to nurture our natural resources.

The Flickner Innovation Farm

GROWING for the Future



Project partners



AMERICAN ROBOTICS



Greenfield
ROBOTICS



KU KANSAS
GEOLOGICAL
SURVEY
The University of Kansas



Shared growth.
Shared success.



CITY OF
WICHITA



AquaSpy™



HEARTLAND
IRRIGATION, INC.
Specializing in
Drip Irrigation



KCARE
Kansas Center for Agricultural
Resources and the Environment



NETAFIM™



Phytech



CLIMATE
FIELD
VIEW



INMAN
IRRIGATION



K-STATE
Research and Extension



KANSAS STATE
UNIVERSITY Kansas
Mesonet



JOHN DEERE



KANSAS
CORN
COMMISSION



McPherson County
Soil Conservation District



San-D-Akr Farms
CONSULTING



The Flickner Farm

www.kcare.k-state.edu

kstatekcare@ksu.edu

facebook.com/flicknerfarms

[@KStateKCARE](https://twitter.com/KStateKCARE)



About the farm

The Flickner Farm has a long history that dates back to the 1870s, when the first family members tilled ground in Moundridge. Ray Flickner is the 5th generation on this farm, which has grown to about 1000 acres spread across eight different sections with 10 individual water rights. The farm uses various technologies, management techniques, and cropping systems to improve water conservation, water quality, and soil health for the entire operation and the surrounding community. This includes implementing sub-surface drip irrigation (SDI) and precision mobile drip irrigation (PMDI) to grow corn, wheat, grain sorghum, and soybeans; many fields are no-till or limited strip till, and there is an ongoing effort to rebuild terraces and to construct new waterways. The Flickners' award-winning commitment to natural resource conservation while maintaining profitability makes the farm a perfect location for testing new technologies and discovering innovative solutions for these issues.

Inspired to innovate

This project sprouted from a desire to use experimental design on a large-farm setting while harnessing the expertise of a team from the local farming community, industry, university specialists, state agencies and other stakeholders. Current work on the Flickner Innovation Farm combines the use of:

- Irrigation technologies, including sub-surface drip and precision mobile drip systems
- Precision agriculture using soil moisture sensors, irrigation scheduling, plant sensors, and emerging machine learning technologies
- Imagery provided by satellite, fixed-wing aircraft and automated drone system
- Research projects focused on soil health, fertilizer response, nutrient losses, and weed management

What can we accomplish?

Recent studies confirm that the Flickner Farm use an average of 40% less water over the past decade than the county average. With the adoption of advanced irrigation technologies, this project hopes to reduce irrigated water use by an additional 15%.

Research on the farm will help to develop new state nitrogen fertilizer recommendations to minimize environmental impacts and maximize productivity and cost savings.

Project partners are monitoring groundwater levels and quality to collect baseline readings from new wells for trend analysis. This can help identify emerging water quality problems and propose solutions for issues affecting the municipal water supply.



If we can leave this land in better condition than how we found it, then we've done our job right.

— Ray Flickner, farmer

Precision Agriculture

Using various types of imagery and other remote-sensing tools, researchers are piloting tailored management practices designed to increase crop yields under diverse environments and under different climate scenarios. The farm is also piloting new technologies for weed management.



Soil Health

How do management practices impact soil health? Our team is investigating the effects of long-term cropping systems on fertilizer requirements for optimum yields. The farm is also the site for several long-term cover crop research projects.

Water Conservation

Extreme climate events underscore the significance of water's role in the future of farming. Our research partners continue to examine how soil and plant sensors, imagery, and advanced irrigation technologies can support resilient water management.



Our Vision

With key partners in place, we will fine-tune existing technologies while exploring new innovations to improve soil health and conserve water on Kansas farmland.

We hope to harvest the advantages of new technology and current research with our comprehensive team of experienced growers, agronomists, watershed specialists, university researchers, and industry specialists. Together, we will extend the reach of standard agricultural practices and improve yields while preserving natural resources.

Calibration and validation of soil water reflectometers

Patrignani, A., Ochsner, T.E., Feng, L., Dyer, W., and Rossini, P. 2022. Calibration and validation of soil water reflectometers. *Vadose Zone Journal*. KAES number: 22-202-J (1,2 IF:3.29). doi.org/10.1002/vzj2.20190

Changes in soybean seed composition

Ciampitti, I.A.; S. Naeve; A.F.B. Reis; and L.M. Rosso. 2021. Changes in soybean seed composition: <https://bookstore.ksre.ksu.edu/pubs/MF3552.pdf>

Current Status and Future Opportunities for Grain Protein Prediction Using On- and Off-Combine Sensors: A Synthesis-Analysis of the Literature

Bastos, L.M.; Froes de Borja Reis, A.; Sharda, A.; Wright, Y.; Ciampitti, I.A. Current Status and Future Opportunities for Grain Protein Prediction Using On- and Off-Combine Sensors: A Synthesis-Analysis of the Literature. *Remote Sens.* **2021**, *13*, 5027. <https://doi.org/10.3390/rs13245027>; <https://www.mdpi.com/2072-4292/13/24/5027>

Evaluation of Soil Parameters after Long-Term Subsurface Drip Irrigation Under Minimum Tillage System

Rutter, E. B. and Ruiz Diaz, D. A. (2021) "Evaluation of Soil Parameters After Long-Term Subsurface Drip Irrigation Under Minimum Tillage System," Kansas Agricultural Experiment Station Research Reports: Vol. 7: Iss. 8. <https://doi.org/10.4148/2378-5977.8132>

Historical trend on seed amino acid concentration does not follow protein changes in soybeans

de Borja Reis, A.F., Tamagno, S., Moro Rosso, L.H. et al. Historical trend on seed amino acid concentration does not follow protein changes in soybeans. *Sci Rep* **10**, 17707 (2020). <https://doi.org/10.1038/s41598-020-74734-1>

Interactive soybean variable-rate seeding simulator for farmers

Correndo, A.; B. McArtor; A. Prestholt; C. Hernandez; P.M. Kyveryga. 2022. Interactive soybean variable-rate seeding simulator for farmers. *Agron. J.* <https://access.onlinelibrary.wiley.com/doi/full/10.1002/agj2.21181>

On-farm assessment of AquaSpy Soil Moisture Sensors for Irrigation Scheduling

Rossini, P. and Patrignani, A. 2021. On-Farm Assessment of AquaSpy Soil Moisture Sensors for Irrigation Scheduling. Kansas Agricultural Experiment Station Research Reports: Vol. 7: Iss. 5. <https://doi.org/10.4148/2378-5977.8082>

Predicting rootzone soil moisture from surface observations in cropland using an exponential filter

Rossini, P. and Patrignani, A. 2021. Predicting rootzone soil moisture from surface observations in cropland using an exponential filter. *Soil Science Society of America Journal*. KAES number:22-038-J (1,3,4 IF:2.31). doi.org/10.1002/saj2.20319

A soil moisture-based framework for guiding the number and location of soil moisture sensors in agricultural fields ***

Rossini, P., Ciampitti, I., Hefley, T., and Patrignani, A. 2021. Soil moisture-based framework for guiding the number and location of soil moisture sensors in agricultural fields. *Vadose Zone Journal*. KAES number:22-039-J (1,3,4 IF:3.29). doi.org/10.1002/vzj2.20159

Soybean management for seed composition: the perspective of US farmers

Borja Reis, A.F.; L.M. Rosso; D. Davidson; P. Kovacs; L.C. Purcell; F.E. Below; S. Casteel; H.J. Kandel; S.V. Archontoulis; I.A. Ciampitti. 2022. Soybean management for seed composition: the perspective of US farmers. *Agron. J.* <https://doi.org/10.1002/agj2.21082>

Winter wheat light interception measured with a quantum sensor and images

Garcia Helguera, M.P., Lollato, R., and Patrignani, A. 2022. Winter wheat light interception measured with a quantum sensor and images. *Agronomy Journal*. KAES number: 22-229-J (1,3,4,5 IF:2.24). doi.org/10.1002/agj2.21125

***awarded a WILEY Top-Cited Article 2021-2022

'Conservation in the Farm Bill: Making Conservation Programs Work for Farmers and Ranchers'
United States Senate Committee on Agriculture, Nutrition, and Forestry
Subcommittee on Conservation, Climate, Forestry, And Natural Resources
April 20, 2023

Testimony of Joseluis M. Ortiz y Muniz
Vice President, La Merced de San Antonio del Embudo Land Grant
Mayordomo, Acequia del Llano del Embudo
Dixon, New Mexico

Thank you to the Honorable Michael Bennet and Roger Marshall for holding this important hearing. Thank you for inviting me to share my story and bring the young farmer perspective to this conversation.

My name is Joseluis M. Ortiz y Muniz and I am an Indigenous, land-based, native New Mexican from the Genizaro land grants of La Merced de Santo Tomás El Apostol del Rio de Las Trampas and La Merced de San Antonio del Embudo. I am a father, mayordomo, professor, member of the National Young Farmers Coalition, and community liaison. I currently live in Northern New Mexico with my partner, where we grow garlic, medicinal herbs, and other vegetables, and care for a variety of animals on my ancestral lands.

I come from a family of farmers: my maternal grandparents farmed more than 25 acres of vegetables from the 1960s to the 1980s, and my paternal grandfather farmed nearly 80 acres of pasture grass from the 1970s to the early 2000s. When they passed on, maintaining an agricultural lifestyle for my parents became impossible and they were forced to find jobs away from our traditional village. As is the case for many of the people who are traditionally from Northern New Mexico, young people often leave in search of a more promising future in the city. I too left, hoping to find a calling in corporate America and quickly learned that it was not for me. Unfortunately, I was impacted by the opioid crisis facing our country today, and had it not been for a peer-to-peer farmer training program championed by organic farmer Don Bustos, I likely would have found myself in jail, homeless, or even dead. This training program, along with programs at a local nonprofit called Los Jardines Institute, that focused on environmental justice, and historical literacy, compelled me to quit using opiates and return home to reconnect to my ancestral land-based traditions.

Returning home was not easy. I no longer had access to the land my family leased for decades, despite 90% of land in the area being fallow, and I didn't have a home to live in. Despite many homes being boarded up and empty, I didn't have the infrastructure or tools that many farming families have, and most importantly I didn't have a thriving agricultural community and economy that would support a successful return home to the land.

Before returning home, I stewarded land-based projects for a decade in Albuquerque that serve under-resourced and disadvantaged communities. For many years I worked with formerly incarcerated individuals to create pathways to healing and to success through land-based and traditional ways of living with modalities rooted in the understanding that culture heals, or "*La Cultura Cura*." When I first

returned back home to Northern New Mexico, I began working with another farmer to revitalize the land-based learning center at Northern New Mexico College called Sostenga. Together, we revitalized the dilapidated land, putting 2.5 acres into production for student demonstrations, and teaching the community how to grow food. We have also been building a training center to teach agriculture as a viable career pathway.

At Northern New Mexico College, I serve as the Farm Director and Research Professor, where I have developed a farm for students and the community to learn. To date, we have grown over 20,000 pounds of food, which we distributed to the community, including students and neighbors. Many of the students in our school are food insecure, so I also created a hunger task force, La Dispensa del Barrio, to provide produce from the farm to students in need.

I also serve as the Mayordomo for my *acequia*, serving over 120 land and water owners. *Acequias* are ancient irrigation canals that were dug by my ancestors hundreds, and some even thousands of years ago. They are a type of democratic community self-governance system that, at its core, values principles such as “you reap what you sow,” or “everyone has a voice.” These principles help guide our community’s ability to thrive in an environment that under natural circumstances would be impossible. My job is to manage the distribution of our sacred water resource and the maintenance of our almost four miles of *acequia* infrastructure. A Mayordomo’s job has changed a lot in recent years due to the unpredictable effects of climate change. What once was a thriving viable water source, our river, the Embudo River, has transformed into a creek. In times of great drought, our community has to rely on non-traditional methods of sourcing water, which can mean leaving land fallow, planting more drought-tolerant and less irrigated grasses for animal feed, and we are sometimes forced to share the available water with other irrigators, causing community stress and trauma. We are literally planning for a near future where surface irrigation might become a footnote in history along with our *acequia* culture and traditional lifeways.

When we do get rain, it can come in the form of flooding. In 2022, Northern New Mexico responded to three 200-year floods that occurred as a consequence of an intense monsoon season. And during the summer of 2022, New Mexico faced the largest wildfire in our state history, the Calf Canyon and Hermit’s Peak fire. Because thousands of acres of forest and surrounding lands were burned, destroying numerous farms and ranches, the resulting runoff and flooding have wreaked havoc. The forests are no longer able to retain water as well, and when the rain comes, it runs downstream quickly.

Because of this, many of our community *acequias* have been destroyed and reconfigured. Almost a year later, we are still rebuilding our *acequia* infrastructure so that producers can irrigate. We believe that conservation programs that focus on soil health, infrastructure, and the development of the next generation of farmers are the only way to authentically prepare for an uncertain future. These programs can ease the burden and stress of watershed mismanagement, failing infrastructure, and a generation of new farmers that do not fully understand the difficulties that lay ahead for farmers and land-based peoples. This is why we must commit to providing an all-hands-on-deck approach inclusive of all communities, all sectors, and all technologies while placing conservation, preservation, and outreach services at the center of our work.

As a community leader, I work closely with farmers and aspiring farmers by providing farm training and technical assistance, helping people apply for and implement Farm Service Agency (FSA) and Natural Resource Conservation Service (NRCS) programs. I am not paid to do this work and instead, I take it on because there are gaps in the delivery of NRCS programs. If I was not helping producers apply, no one would and these producers would be left behind. Part of my work is helping identify what NRCS programs would be a good fit for folks to apply for, especially the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP). I have seen firsthand the benefits that NRCS conservation programs can have for farmers, however, there are many barriers to accessing these programs, especially for disadvantaged communities. I work with a lot of traditional land-based communities, and one of the biggest barriers they face is not knowing that these programs are for them or how to access these resources.

I've done a lot of outreach and identified people who would be excellent candidates for certain USDA programs, and when I send them the application, I'm often met with confusion or refusal. It's difficult to understand the complexities that go into submitting an application: driving to your local NRCS office to receive an application or accessing them online, deciphering the questions in English (and sometimes Spanish), and making sense of the technical language and jargon. NRCS currently has a very hands-off approach, where, in my experience, there is no one to sit down and walk you through the application and help you fill it out. Therefore, NRCS needs to focus on securing more staff in local offices that can dedicate their time to helping farmers access the programs that are available. And if NRCS cannot build its capacity, they need to look to partners, technical service providers, or peer-to-peer opportunities for assistance in program delivery.

Through the National Young Farmers Coalition's network, young farmers and ranchers have identified two key barriers to accessing EQIP funding. The first issue is farm size. Research has shown that large farms are more likely to receive payments than small farms, even though small-acreage farms have an important role to play in protecting natural resources, improving water quality, and improving wildlife habitat. The second major barrier the Young Farmers network has identified is difficult application processes. As mentioned above, these applications are complicated and NRCS staff often do not have the time and resources to help new farmers navigate these processes. Conservation plans and applications usually require the same amount of time to complete for both small farms and large farms, but small farms do not have the same capacity or resources, and NRCS usually prioritizes projects based on acreage. I recommend that NRCS create a scaled-down version of EQIP, one that can help small farms and young farmers access EQIP funding much more easily. Investing in conservation and traditional ecological knowledge/research can help protect our natural resources and ensure the long-term success and resilience of our farms. By creating a small farm EQIP program, USDA could meet the needs of small farms through dedicated funding and a simplified application process.

Another way that USDA and NRCS could improve programs and ensure that more people, like those that I work with, can actually use these programs is by having culturally competent technical assistance paired with adequate outreach that harness peer-to-peer farmer networks and community-based organizations. This could look like hiring and compensating people from the surrounding community who understand *acequias* and local community needs who can step in to provide the same support that I am currently providing to my community. These people can help identify farmers to apply for programs, help people

fill out applications, and serve as a true agency resource for farmers. The role of a farmer should be to grow food, not fill out paperwork. According to a 2022 survey by the National Young Farmers Coalition, nearly three-quarters of young farmers do not know that there are USDA programs to assist them. And according to a recent survey from the American Farmland Trust New England, they found that more than half of farmer respondents were getting their technical assistance and other education directly from farmers they know (compared with 20% from NRCS). Equitable and culturally appropriate outreach to young and Black, Indigenous, and other farmers of color, in addition to simple and streamlined application processes, would help more farmers benefit from the programs that are there to help them.

Thank you for listening to my story and for working to support so many other farmers like me.

Testimony of

Jeff Rutledge

**Before the Senate Committee on Agriculture, Nutrition, and Forestry
Subcommittee on Conservation, Climate, Forestry, and Natural Resources**

**Conservation in the Farm Bill: Making Conservation Programs Work for
Farmers and Ranchers**

Washington, D.C.

April 20, 2023

Good morning, Chairman Bennet, Ranking Member Marshall, and members of the Subcommittee, thank you for holding this hearing and the opportunity to testify on my perspectives of voluntary Farm Bill conservation programs.

My name is Jeff Rutledge, and I am a fifth-generation rice, corn, and soybean farmer from Newport, Arkansas. I am actively involved in two organizations that are leaders in the conservation arena, USA Rice and Ducks Unlimited.

As the global advocate for all segments of the U.S. rice industry, USA Rice's mission is to ensure the health and vitality of a unified U.S. rice industry by advocating on behalf of farmers, millers, merchants, and allied businesses. Rice farmers harvest roughly 20 billion pounds of rice grown on 2.8 million acres of sustainably managed farmland annually. 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 80 percent of the rice consumed in the U.S. is grown on family farms in Arkansas, California, Florida, Louisiana, Mississippi, Missouri, and Texas.

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 to us. Our stewardship is deliberate, ensuring a healthy, safe food supply, while improving the environment, and contributing to the local economy.

I am proud to serve on the USA Rice Federation Board of Directors, USA Rice Farmers Board of Directors and Conservation Committee, as vice chairman of the USA Rice Council, and also as member of the USA Rice-Ducks Unlimited Rice Stewardship Partnership Committee. I am also active with the Arkansas Rice Federation, Arkansas Rice Council, Arkansas Ag Council, Arkansas Waterways Commission, Arkansas Rice Research and Promotion Board, and the AgHeritage Farm Credit Association. I have also served in various capacities with Farm Bureau at the county, state, and national levels, and previously served on the U.S. Grains Council and as a member of my local school board.

As a farmer, I'm proud to live and sustainably manage land at the nexus of production agriculture and conservation. In addition to rice and the other crops I produce, we are proud to provide critical habitat to hundreds of species of wildlife, particularly migratory waterfowl, namely ducks. As a member of Ducks Unlimited, I am extremely proud of the work this organization does.

Ducks Unlimited (DU) was established in 1937 amid the Dust Bowl drought and the Great Depression. Founded by people who understood the value of wetland resources and bolstered by the passage of the first federal duck stamp in 1934, DU has become the premier organization for wetlands and waterfowl conservation with a mission to conserve, restore, and manage wetlands and associated habitats for North America's waterfowl, other wildlife, and people. To date, DU has conserved more than 15-million acres across the continent focusing heavily on the priority landscapes for waterfowl populations, while conserving habitat in all 50 states, every Canadian province and Mexico. DU has more than 1 million members and supporters across the U.S., with a strong concentration of members and chapters in the U.S. rice growing states.

Rice fields throughout the rice-growing regions not only provide \$3.5 billion in migratory waterfowl habitat, but also contribute to substantial biodiversity, ranging from crawfish and yellow rails along the Gulf Coast to a successful NRCS supported pilot program in California that uses flooded rice fields as salmon nurseries.

Farm Bill conservation programs are important to the U.S. rice industry and its voluntary, incentive-based, locally-led model is critical to widespread adoption of conservation practices by rice farmers. Conservation programs should have the dual goal of not only incentivizing environmentally beneficial practices but also helping producers transition to conservation systems that promote productivity and economic viability as compatible goals while supporting the rural economy.

Working Lands Programs

Throughout rural America, working lands programs like the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP) serve as economic drivers. It takes more than just one farmer to complete the work needed to implement an EQIP or CSP contract. Consider the outside technicians, engineers, and local soil and water conservation districts needed to help oversee the conservation planning, as well as the scientists, the land movers, and other equipment necessary to implement these conservation practices.

Nationwide – and in Arkansas specifically – the demand for EQIP and CSP has outpaced 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 \$49 million. This has resulted in unmet demand of \$106 million each year for the State's producers. Likewise, the State's unmet demand for CSP funds has averaged at \$99 million over the past five years due to the state having a funding allocation of only \$25 million but a demand of \$124 million.

As you write the 2023 Farm Bill, Congress should strengthen working lands programs, like the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP).

EQIP is a vital tool because it is a straightforward program with an extensive list of practices that works for all regions and all production systems. EQIP's broad suite of structural and management practices can help better manage water resources, help with irrigation efficiency, reduce soil erosion, improve soil health, and enhance water quality.

CSP helps to target specific resources using several complementary practices and has been a great tool for rice farmers to pay for expensive long-term management practices and increase conservation work across the entire farm. Congress should ensure the Conservation Stewardship Program continues to acknowledge early adopters while also incentivizing incremental conservation goals through programs. Many rice farmers are struggling to find options within the program that reflect the advancements in technology and workable systems to improve soil health. We encourage Congress to work within the Farm Bill to ensure that the program is

offering options that reflect the state of technology and facilitate continued improvement in conservation for rice producers.

However, Congress should be careful not to prioritize one natural resource concern over others. Voluntary, incentive-based conservation programs are popular because farmers have a suite of choices and can adopt conservation practices that most benefit their operation and their region. For example, the rice industry, working with USDA, has made significant investments in conserving the flyways. An essential piece of that strategy is winter flooding, which should be recognized for the many benefits it provides. Winter flooding is an EQIP and CSP wildlife practice that provides moist-soil wetlands in rice fields and attracts a significant number of ducks in the Mississippi Alluvial Valley and the Central Valley/Coastal California.

Furthermore, Congress should not prioritize one solution over others. Because rice is a unique cropping system and a 100 percent irrigated crop, conservation programs should not provide one-size-fits-all solutions. For instance, focusing solely on a practice like cover cropping that most rice farmers cannot utilize would be inequitable for rice farmers. Similarly, a farmer in the Dakotas would not utilize post-harvest flooding as a practice option. That's why solutions should be locally led and support local priorities.

Regional Conservation Partnership Program

I must also mention the importance of the Regional Conservation Partnership Program (RCPP). As you may know, the rice industry's symbiotic relationship with waterfowl led to a historic partnership with Ducks Unlimited, called the Rice Stewardship Partnership (RSP) founded in 2013 and is celebrating its 10th anniversary this year. While we both have separate missions and methods, we have managed to collaborate and develop goals for our Partnership, including work on RCPP.

The Rice Stewardship Partnership's RCPP projects have pulled together nearly one hundred diverse partners to help implement their goals, communicate successes, and ultimately share the cost of investment in working lands conservation programs. The Rice Stewardship Partnership has had phenomenal success in delivering on the ground conservation to rice farmers. Since the creation of RCPP in the 2014 Farm Bill, the RSP has beneficially impacted over 800,000 acres of rice and rice rotation ground and provided over \$108 million in additional conservation funding.

For the 2023 Farm Bill, USA Rice and Ducks Unlimited would note the complexity plaguing RCPP since the 2018 Farm Bill is affecting the long-term viability of a crucial partnership program to rice farmers. Congress should work to address barriers for partners including the overly detailed and complicated application process, multiple layered agreements, the length of time it takes to finalize an agreement, and how technical assistance is accounted for. Simplifying RCPP will help deliver more timely assistance to producers. While administrative barriers can present unnecessary obstacles and costs for partners, we ask Congress to provide thoughtful and minimal solutions that allow the program to successfully function as it has for nearly a decade.

Conclusion

Rice farmers are passionate conservationists. They invest their own financial resources to bring these Farm Bill conservation programs to their farm. USA Rice has formed partnerships with conservation organizations like Ducks Unlimited and the private sector to expand the conservation opportunities and produce rice that benefits the soil, water, and wildlife resources as well as our local communities. However, none of these historic producer investments in conservation can happen if the farm is not profitable. I urge Congress to ensure all producers have the safety-net to continue to be sustainable both economically as well as environmentally.

Thank you again for the opportunity to share my perspectives on the Farm Bill conservation programs.

**Testimony of Dr. Sara Porterfield
Western Water Policy Advisor, Trout Unlimited**

**Senate Agriculture, Nutrition, & Forestry Committee
Subcommittee on Conservation, Climate, Forestry, & Natural Resources**

**Hearing on Conservation in the Farm Bill:
Making Conservation Programs Work for Farmers and Ranchers**

April 20, 2023

Thank you, Chairman Bennet, Ranking Member Marshall, and members of the Subcommittee, for inviting me to testify today on behalf of Trout Unlimited (TU) and its over 300,000 members and supporters nationwide. My name is Dr. Sara Porterfield, and I am the Western Water Policy Advisor for TU.

TU's mission is to bring together diverse interests to care for and recover rivers and streams so our children can experience the joy of wild and native trout and salmon. In pursuit of this mission across the West, TU has worked with ranchers, farmers, Tribes, federal, state, and local agencies, local contractors, businesses, and many other partners to restore streams while also sustaining working lands and vibrant communities.

Today I am speaking from TU's experience as a partner with farmers and ranchers throughout the country on projects implemented under Conservation Title programs. The 2018 Farm Bill's Conservation Title authorizes conservation programs to address natural resource concerns on private, working lands. The Conservation Title provides a great deal of opportunity to meet the twenty-first-century needs of agriculture and conservation. These programs provide an important and much sought-after resource for producers to simultaneously improve their operations and benefit water quality, wetlands and streams, fish and wildlife habitat, and other natural systems. In sum, the Conservation Title's programs have contributed invaluable investments into agricultural and environmental health across the nation. With farmers and ranchers on the front lines of the climate crisis, these programs have never been more important for helping producers adapt to the threat of droughts, floods, and other extreme weather events while building resilience into the future.

The need for conservation program support is urgent. The landmark funding from the Inflation Reduction Act (IRA) is critical to helping producer operations and agricultural ecosystems adapt to changing conditions and contribute to viable solutions for addressing climate change going forward. We hope investments at the scale of the IRA will continue after its ten-year authorization window. But for now, the IRA investment in conservation programs along with the regular Conservation Title funding provide much needed opportunities to build resiliencies that have become essential for producers' operations, the agricultural economy, and the health of the environment on which these both depend. Conservation programs are the key vehicles through which these investments will be deployed. It is, therefore, imperative that the programs are implemented to the fullest extent to achieve their intended goals of helping promote agricultural

productivity while simultaneously addressing natural resource concerns and, in the case of the IRA investments, reducing greenhouse gas emissions and sequestering carbon across the agricultural sector.

However, these conservation programs are not yet fulfilling their true potential because they are too often mired in bureaucratic inertia and laden with red tape. Producers' biggest complaint about the Conservation Title—after too little funding—is how long and complex the process is to access the programs. To meet the urgent needs of drought in the West and flooding in the East, the next Farm Bill must include legislative changes that help these important programs effectively and efficiently bring funding to the ground to improve producers' operations, improve ecological health, and build resilience in the face of climate change. The Farm Bill is, after all, for farmers, and without a healthy environment we won't have the robust agricultural economy and culture that is such an integral part of this country.

Climate change has brought on heightened uncertainty, and this country's producers and the agricultural economy are more vulnerable than ever before. We need to optimize conservation programs to make sure Farm Bill funding reaches the ground and operates to help working lands become more resilient to the extreme weather events thrown at them. In the West, climate change is manifesting as deep and longstanding drought, a fact recognized by a bipartisan group of Senators in a 2019 letter to then-Secretary of Agriculture Sonny Perdue.¹ Despite the exceptionally wet winter much of the West has experienced—and is continuing to experience—the crisis is not over. Total storage in the Colorado River Basin is at only about 30% full, and experts estimate it would take six or more years of the kind of weather we saw this winter to refill the basin's storage reservoirs.² Across the West, the more than two-decade drought has wreaked ecological havoc, with high stream temperatures deteriorating aquatic health.³ For agricultural producers, prolonged drought has forced farmers and ranchers to make difficult choices for their operations in the face of severe cuts to their annual water allocations, with some farmers planting a smaller percentage of their average crop or reducing livestock herd sizes.⁴

The effects of climate change and drought extend far beyond agricultural operations. In my home state, Colorado's farmers and ranchers are stewards of their lands, which also supports one of Colorado's major economic drivers—recreation and tourism. Hunting, fishing, and river-based recreation create 131,000 jobs and bring \$6.3 billion in salaries and wages into Colorado.⁵ The Farm Bill Conservation Title's investments in Colorado's ranches and farms—and the fish and wildlife habitat they support—contributes to rural economic vitality and has a broad ripple effect on Colorado's whole economy.

¹ Michael Bennet, Martha McSally, Jeffrey Merkley, Cory Gardner, Diane Feinstein, Ron Wyden, Jerry Moran, Krysten Sinema, Tom Udall, Kamala Harris, Martin Heinrich, Letter to Secretary of Agriculture Sonny Perdue, August 1, 2019, p. 1

² Shannon Mullane, "[Colorado River Basin Reservoirs Still Face Grim Outlook Despite Healthy Snowpack](#)," *The Colorado Sun*, 4 April 2023.

³ "[Emergency Fishing Closures July 2022](#)," Colorado River Headwaters Chapter, Trout Unlimited; Carisa Scott and Evan Kreugel, "[Colorado River Crisis: Water Temperatures Cost Commercial Anglers](#)," *KDVR*, 24 August 2022.

⁴ Nina Kravinsky, "[Drought is Forcing Farmers in Colorado to Make Tough Choices](#)," *NPR*, 6 November 2021.

⁵ Business for Water Stewardship, [Economic Contributions of Water Related Recreation in Colorado](#), 2019.

With the specter of climate change looming over agricultural operations and ecosystem health, I offer suggestions for clarification or changes in the next Farm Bill that will improve the speed and effectiveness with which conservation programs can be implemented to accelerate the benefits to farmers, ranchers, and ecosystem health.

Conservation Assistance Capacity

Perhaps the most important, overarching issue that affects agencies' ability to effectively deliver conservation programs is insufficient field staff to meet producer demand for conservation technical assistance. I have consistently heard from TU staff and partners that the lack of agency staff in the field hampers the implementation of conservation programs and is a major deterrent for partners and producers in bringing potential projects to agency staff. In the Upper San Juan River Basin in southwestern Colorado, for example, TU and partners have brought a proposal to the local NRCS office for \$8 million worth of projects needed to help improve producer operations and watershed health in the region. NRCS staff have expressed excitement and interest in developing a Regional Conservation Partnership Programs (RCPP) to address this need but have acknowledged they do not have the staff to undertake such a project. This lack of capacity is preventing good ideas from coming to fruition despite the intended aims of conservation programs and is inhibiting farmers and ranchers from implementing needed changes to their operations to adapt to climate change and drought. The NRCS and FSA need resources to hire qualified staff in the field for these programs to function as intended.

In addition to increasing staff support, partners need the flexibility to hire consultants who can provide much-needed capacity for technical assistance such as engineering work. Currently, private businesses, NGOs, Tribes, individuals, and public agencies can be certified as a Technical Service Provider (TSP) who can provide assistance as a stand-in for NRCS staff. However, TSP certification disincentivizes these entities from participating due to significantly under-market limits on the rates TSPs can charge for their services. Such limitations deter participation, hindering what could be a valuable tool for expanding agency capacity. The next Farm Bill should direct funding to increased agency staff capacity at the local field level and make changes to facilitate partners' ability to provide technical assistance to ensure conservation programs meet their intended goals and fulfill their mission of helping farmers and ranchers get conservation benefits to the ground.

Regional Conservation Partnership Program (RCPP)

The 2014 Farm Bill established the Regional Conservation Partnership Program (RCPP) to better coordinate NRCS activities with partners, like TU, who are able to expand and add value to on-farm, watershed, and regional conservation work. An RCPP project must show impact on a natural resource priority, include innovative conservation approaches or demonstrate conservation impact, provide a one-to-one match from non-USDA funds, and demonstrate that partners have the experience and capacity to manage the five-year contract. RCPP conservation activities can also include easement options and land rentals. Proposals may be submitted to either a Critical Conservation Area (CCA) or State/Multi-State funding pool. RCPP is an

important and valued program for implementing conservation benefits at scale, and since its inception has achieved tremendous improvements both for streams and agriculture. Since RCPP began, TU has put more than \$32.7 million to work on the ground with partners to improve fish passage, restore riparian habitat, and improve water quality while investing in producers' operations across the country.

RCPP is widely viewed as administratively burdensome and laden with red tape that makes it difficult, if not impossible, for partners and producers to get program funding to the ground in efficient and effective ways. NRCS has recognized such issues exist, most recently through holding in-person and virtual listening sessions last month to gather input from stakeholders on the challenges they've experienced with the program.

Challenges experienced by partners and producers include, but are not limited to:

- Multi-layered contracting requirements that take, on average, 2 years for an RCPP agreement to be fully executed after the award selection is made.
- The portal used to manage RCPPs is unwieldy and duplicative and requires NRCS staff, rather than partners, to input data, causing unnecessary delays and opportunities for mistakes.
- Contracting the amount and delivery of Technical Assistance (TA) is unnecessarily complex and requires a burdensome and time-consuming amount of tracking and reporting for partners, thereby reducing the amount of TA partners can dedicate to producers.
- The award ceiling of \$10 million is too low and successful projects are limited by the funding provided per project. If producer interest is greater than the funding allocated to a project, there is no way to increase the award amount. In addition, the 50% required match funding is difficult for partners to obtain and is often the limiting factor to the scale of projects.

TU is currently experiencing firsthand the burdensome contracting process with its Gunnison River Watershed Drought Resiliency and Restoration Project, awarded in September 2021 and not yet under contract more than a year and a half later. This RCPP-AFA (Alternative Funding Arrangement) project is designed to address the effects of drought in the West, including insufficient water, inadequate habitat, water quality degradation, and soil quality degradation as outlined in the NRCS's resource concerns for the Colorado River Basin Critical Conservation Area. TU and partners will meet these goals by increasing ecological and agricultural resiliency to drought by restoring wetlands and riparian areas while improving irrigation water management on at least five working ranches in three distinct tributaries to the Gunnison River. This RCPP-AFA will address numerous water use and environmental needs in unique landscapes and stand as an example of scalable, collaborative conservation work that improves drought resiliency for agricultural producers and the environment.

As of today, TU is waiting for the execution of the Supplemental Agreement for Technical Assistance—the second of three layers of required contracting for AFA projects—eighteen months after announcement of the funding award for this project addressing urgent needs in the Gunnison River Basin. This process has involved many rounds of communication with state and national NRCS staff and long wait periods, compounded by the fact that partners cannot enter

information and materials into the portal themselves but instead must rely on NRCS staff to gather information from partners and then enter it themselves, thereby increasing the NRCS staff time involved as well as the potential for errors.

This drawn-out contracting process has caused delays in project implementation. TU had originally planned to start construction in the fall of 2022 but will not be able to begin project implementation until fall 2023 at the earliest. The Supplemental Agreement TU is currently waiting for is necessary to move forward with engineering designs for the planned irrigation diversions and water control structures. It is imperative to have these in hand by mid-summer at the latest to be able to hit the narrow window for construction between the beginning of August after the irrigation season when the fields are dry enough to access and before winter begins at these higher elevations in October or November. Such delays not only keep producers waiting for the planned benefits to their operations, but also prevent realization of drought resilience benefits for producers and ecosystems in a watershed that has been hit hard by the twenty-plus year drought in the Colorado River Basin.

In contrast, two months after NRCS announced TU's Gunnison RCPP-AFA selection the agency announced selection of TU's application for a Conservation Innovation Grant (CIG) under the On-Farm Trials program in an overlapping geography in Colorado in November 2021. The Regional LoRa Networks to Improve High Elevation Flood Irrigation Water Management CIG project will deploy the use of new technology to maintain the benefits provided by flood irrigation practices while improving irrigation efficiency in landscapes where more common system upgrades like sprinklers are not practical. Contracting for the CIG was completed and executed in February 2022, just three months after application selection, and on-the-ground project implementation began last spring in time for the 2022 irrigation season and this project is now well underway. The CIG program's far more streamlined grant contracting process, as seen in these examples, provides a model for improving the RCPP contracting process, thereby getting funding to the ground and providing climate resilience and operations improvements for producers far more efficiently.

The next Farm Bill must reduce RCPP's administrative burdens by modernizing federal contracting authority and streamlining the application, contracting, and reporting process. This can be done through three primary changes:

1. **Changing the contracting vehicle from a partnership agreement to a grant agreement**, paralleling the successful CIG and CIG On-Farm Trials programs that use grant agreements, as seen in the above example.
2. **Eliminating the requirement for a supplemental agreement for the partner's provision of technical assistance**. Under the grant agreement the partner will contract directly with the producer and no separate technical assistance agreement is required between NRCS and the partner.
3. **Authorizing partners, under the grant agreement, to work with producers** to achieve conservation benefits, restore habitat, or preserve working lands through a conservation easement, thus eliminating the need for a separate and time-consuming contract between NRCS and producer.

Producers across the country are at the frontlines of climate change, and are feeling the effects of droughts, floods, and other impacts more acutely than most in the country. RCPP is intended to help farmers and ranchers invest in, prepare for, and respond to these challenges by getting these investments to producers' bottom lines in ways that create conservation benefits and improve operations. The changes to this program in the next Farm Bill laid out here will mobilize partners' technical assistance capacities and bring them directly to producers. This will remove two of the biggest bottlenecks—lack of technical assistance and the red tape associated with producers' contracting with the NRCS—and make conservation programs work for farmers and ranchers to address the crises facing them now. We cannot let administrative burdens and bureaucratic delays continue to hamper the response to the challenges facing producers today and that will continue to grow more urgent.

Watershed and Flood Prevention Operations Program (WFPO)

Flooding, drought, and erosion cause significant damages to U.S. rivers and streams, leading to loss of life, declines in agricultural production, damage to property, and harm to fish, birds, and other wildlife. The NRCS's Watershed and Flood Prevention Operations (WFPO) program has been a valuable tool for states and local organizations in addressing damages to watersheds by providing technical assistance and funding to plan and install measures to prevent erosion and flood damage; repairing high hazard dams built by NRCS; and conserving, developing, and using land and water resources.

In recent years, more and more communities have been turning to the WFPO program to implement time-sensitive solutions to address natural disaster impacts of drought and flooding. In Colorado, for example, many partners came together to plan and implement one of Colorado's most ambitious river restoration projects: the Colorado River Connectivity Channel. The Connectivity Channel is a WFPO project and the linchpin connecting intense efforts to create a fully functioning stream channel around Windy Gap Reservoir in Grand County, Colorado. The Channel will not only reconnect aquatic habitat currently severed by the on-channel Windy Gap Reservoir; it is expected to improve the river's resiliency in the face of drought and increased water diversions that supply a growing Front Range population. The project's ecological importance is equaled only by its precedent-setting value. The Connectivity Channel has brought together entities that, for more than a decade, fought relentlessly over transmountain water diversions and their impacts on the headwaters of the Colorado River. These entities have come together, raising millions of dollars, to restore the river while allowing it to continue to supply water to the thousands of people in Colorado who depend on it. Support from the excellent Colorado state NRCS staff was invaluable to moving this project to construction and realizing the water supply and ecosystem benefits. The support of Colorado's Senator Bennet was also key to maintaining the project's momentum. Many other WFPO projects can tell a similar story of multi-stakeholder planning and support for projects that meet important water infrastructure modernization needs while providing multiple public benefits to increase watershed resilience to drought or reduce flood risk.

Similar to other conservation programs, partners and producers experience challenges when using the WFPO program due to bureaucratic hurdles. The Connectivity Channel illustrates two

common barriers to timely implementation: major delays in the approval of a project's required Watershed Plan and the program requirement to monetize environmental benefits.

The Connectivity Channel experienced major delays in the approval process for its Watershed Plan, a process that ultimately took three years out of this project's five-year window for completion. Project managers experienced multiple rounds of reviews from NRCS's national office due to a reclassification of the project type partway through the process and they were told they needed multiple groups of people to review the plan. While project managers were able to begin the project engineering process with matching funds, the Watershed Plan process threatened to delay construction to the point that it would run past the project's allowed timeframe and threatened vital match funds due to the delays. Ultimately, the delays necessitated TU's pursuit of a one-year extension to complete the project. These delays also significantly increased construction costs for the project.

The WFPO program requires that the Watershed Plan come up with a dollar amount to assign to the benefit for habitat improvement and water quality, a requirement that nearly derailed the Watershed Plan for the Connectivity Channel project. The project's consultants hired to do the Watershed Plan, who had deep experience in completing other Watershed Plans, reported that they had never been through such intense scrutiny and rounds of feedback as when having to assign a dollar value to the benefits of the habitat improvements.

Changes to the WFPO program in the next Farm Bill must ensure the program benefits producers, communities, and the environment and provides a response to the challenges of a changing climate. This can be accomplished through two primary changes:

1. **Streamlining program administration** by eliminating the requirement to monetize environmental benefits, thereby modernizing the program to fund projects that use natural infrastructure, and by moving final decision-making over the Watershed Plan review process to the applicable State Conservationist's office rather than the NRCS national office.
2. **Prioritizing projects that provide multiple benefits** to watershed and fisheries health, rural communities, and agricultural producers. Projects that provide multiple, public benefits generate positive long-term economic and non-economic outcomes for taxpayers. These benefits include improvements in fish or wildlife habitat; reduction of drought or flood risk; improvements in water quality; water conservation, improvements to instream flow or fish passage; or off-channel renewable energy production.

Additional changes should include a recognition of the increased material and labor costs by raising the allowable federal contribution to projects from \$25 million to \$50 million. In just the last two years alone, materials used in irrigation piping projects have increased in cost by an average of 60%. Further, the next Farm Bill should authorize consolidated planning of one or more sub-watersheds. WFPO's statutory limitation to watersheds less than 250,000 acres has historically disadvantaged western interests seeking assistance under the law. Consolidated planning should be authorized so that one or more sub-watersheds of 250,000 acres each may be planned together at the discretion of the local organization sponsoring a proposed project. Together, these changes will help WFPO program funding to the ground in an expeditious

manner that will benefit producers, the environment, and communities that depend on our nation's waterways.

Environmental Quality Incentives Program (EQIP)

The Environmental Quality Incentives Program (EQIP) is one of the largest and most ubiquitous Conservation Title programs. EQIP provides technical and financial assistance to agricultural producers to help plan and implement conservation practices that address natural resource concerns identified for the relevant area. EQIP assistance is provided through contracts, most often administered through NRCS offices. Any active producers or ranchers on eligible lands can apply for EQIP funding. Importantly, EQIP funds pay the partial cost, or a payment rate, for conservation practices relevant to improving the identified resource concern.

The 2018 Farm Bill made multi-producer irrigation infrastructure projects eligible for EQIP funding for the first time. Based on this statutory change, the NRCS created a definition of "water management entities" (WMEs) that are eligible applicants for EQIP funding that includes entities like groundwater management districts, acequias, land-grant mercedes, or other similar entities that have jurisdiction or responsibilities related to water delivery to eligible lands. This change was designed to increase the pace and scale of drought response in the Rio Grande, Colorado River Basin, and other drought-affected watersheds to make producers' operations more resilient to climate change and support agricultural economies in the West.

While this provision in the 2018 Farm Bill was designed to aid western producers, it would not alter or detract from the EQIP funding available to and that supports farmers in other parts of the country. Each state receives an EQIP allocation of funding, and the 2018 Farm Bill specifically directed that the new WME project eligibility would not alter the already-existing state EQIP allocations. Therefore, states outside of the West in the Midwest, East, and South whose producers do not rely as heavily on shared, multi-producer irrigation systems would not have their EQIP allocation changed, meaning none of the states outside the West would see their EQIP money put toward WME projects or shifted to states where WME projects would be eligible for EQIP funding. In addition, each State Conservationist in western states still determines the portion of EQIP funding to be dedicated to WME-eligible projects, or if there are higher producer or conservation priorities that merit prioritization in that state's funding allocation. The EQIP state allocation allows the program to address resource concerns across the country without disadvantaging one region or changing where funding and resources have historically supported producers and their needs.

Under previous Farm Bills, western irrigation infrastructure shared among producers was ineligible for EQIP funding. Small to mid-sized water management organizations like acequias, land-grant mercedes, canal, or mutual ditch companies are often overlooked by available funding (e.g., they are not prioritized for Reclamation funding as they do not have Reclamation infrastructure, nor are they individual producers who have been historically eligible for EQIP). Acequias and land-grant mercedes, in particular, are likely to be comprised of historically underserved producers. They represent a category of "water management entities" that have a need for the increased availability of funding from programs like EQIP to undertake projects that

allow individual producers to respond to and prepare for climate change and drought. To ensure that projects are right-sized for these kinds of entities, NRCS regulations implemented a per-project limit for WME projects in light of the fact that larger, more expensive projects are likely a better fit for other programs (e.g., WFPO) and agencies (e.g., the Bureau of Reclamation).⁶

Within the 2018 Farm Bill, the statutory direction is codified at [16 U.S.C. Section 3839aa-2\(h\)](#). Subsection (2)(h)(2)(A) authorizes the Secretary to enter into a contract with a WME “to implement... practices under a watershed-wide project that will effectively conserve water, provide fish and wildlife habitat, or provide for drought-related environmental mitigation, as determined by the Secretary.” In addition, subsection (2)(h)(3)(A) directs that the “Secretary shall give priority to applications in which . . . there is a reduction in water use in the operation on that land [the eligible lands associated with the WME]” (emphasis provided). This mandatory prioritization underscores the 2018 Farm Bill’s effort to create drought-response tools for the West.

Unfortunately, since WMEs became eligible for EQIP funding, NRCS has not provided clear guidance on the types of projects that meet the statutory criteria for eligible projects. In addition, the NRCS has not provided guidance or clarity on how EQIP applications could be ranked in terms of funding priority. The next Farm Bill should include direct language requiring NRCS to publish, within 1 year of authorization, a suite of conservation practice standards that address diminished water quantity in the face of drought, meets the environmental sideboards, and are practices that ensure WME funding eligibility, including the small to mid-sized organizations that are regularly underserved or overlooked.

These changes would require the NRCS to publish two separate lists of existing qualifying Conservation Practice Standards (CPS):

- (1) One list of qualifying CPS for irrigation efficiency projects, such as irrigation ditch lining (428), irrigation pipeline (430), micro-irrigation system (441), irrigation system (443), and irrigation water management (449); and,
- (2) another list of qualifying CPS for the statutorily required public benefits of fish and wildlife habitat improvement, environmental drought mitigation, or reduced consumptive water use, such as conservation crop rotation (328), stream habitat improvement and management (395), aquatic organism passage (396), wetland restoration (657), or restoration of rare or declining natural communities (643).

The directive would then require that an eligible WME project would have one or more CPS from each list. In other words, an eligible WME project would be required to implement at least one CPS from list (1), above, relating to irrigation infrastructure or irrigation water management and would also be required to implement at least one CPS from list (2), above, relating to water conservation, fish passage, improving stream or wetland habitat, or otherwise providing environmental drought mitigation. Project proponents can design the project to fit their specific needs and priorities by selecting the qualifying CPS appropriate to their system modernization

⁶ §1466.6, “Program requirements,” 84 Fed. Reg. at 69284.

goals. This allows EQIP to work for farmers and ranchers by providing the flexibility for producers to think creatively about how they can best to implement practices to maximize their operation's resilience to climate change and drought.

Conservation Reserve Enhancement Program (CREP)

Farmers and ranchers across the country need conservation programs to operate at scale to address the challenges they face in response to climate change. In the West, this means that producers require these programs to help them meet the challenges of increasing, long-term drought that threatens their livelihoods and the agricultural economy of the region. In order to meet these needs, conservation programs must allow partners and producers to act in creative and flexible ways to maintain the viability of their operations and the economic and cultural values agriculture brings to the region. The Conservation Reserve Enhancement Program (CREP) provides an existing avenue for scaling western responses to climate change and prolonged drought and has been successfully applied across the region to respond to water scarcity brought on by declining groundwater and surface water levels.⁷

The Conservation Reserve Program (CRP) operates CREP, which is administered by the Farm Service Agency (FSA). CREP projects target resource concerns at the state, regional, and national level by providing an annual rental rate, combined with other incentives, to producers who participate voluntarily and retire environmentally sensitive land and plant appropriate vegetative cover, per the terms of the CREP agreement. The program leverages a combination of federal and non-federal funding to address resource concerns and support conservation outcomes.

In recent years, CREP has demonstrated a successful track record of helping producers on the Great Plains and in the West respond to climate change, drought, and water scarcity by decreasing groundwater use and thereby increasing groundwater levels.⁸ Projects including the Colorado Republican River, Kansas Upper Arkansas River, Nebraska Platte-Republican Resources Area, Colorado Rio Grande, and Idaho Eastern Snake Plain Aquifer CREPs have successfully participated in CREP in a manner that has also allowed them to reduce the amount of water for irrigation use.⁹ Participating farmers contribute to reaching these goals by

⁷ Recent evaluations of the Idaho Eastern Snake Plain Aquifer and the Nebraska Platte-Republican Resources Area CREPs have proven these projects successful in meeting their goals. Idaho's report cites the Snake Plain CREP as a popular, "consistent water saving option" that "is valued as one of the water saving options for the landowner to help offset economic hardships to mandatory reductions" (p. 5). Nebraska's 2017 evaluation reported 44,061.77 acre-feet of consumptive use savings. See: Idaho Soil & Water Conservation Commission, *Idaho's Conservation Reserve Enhancement Program Eastern Snake Plain Aquifer FY 2018 CREP Annual Performance Report*, 2018; Nebraska Department of Natural Resources, *2017 State of Nebraska Platte-Republican Resources Area Conservation Reserve Enhancement Program Annual Report*, December 2017.

⁸ Randall Grant Monger, "Explaining Participation in the Colorado Republican River and Nebraska Platte-Republican Resources Area Conservation Reserve Enhancement Program," paper presented at the Agricultural and Applied Economics Association Annual Meeting, Boston, MA, 31 Jul.-2 Aug. 2016, p. 3, note 1.

⁹ USDA FSA, "[Fact Sheet: Conservation Reserve Enhancement Program—Colorado Republican River](#)," June 2019; USDA FSA, "[Fact Sheet: Conservation Reserve Enhancement Program—Kansas Upper Arkansas River](#)," January 2017; USDA FSA, "[Fact Sheet: Conservation Reserve Enhancement Program Nebraska Platte-Republican River](#)

permanently retiring the enrolled land from agricultural production. These projects provide rental payments to farmers who enroll their land, thereby granting these producers a reliable source of income and protection from risk while participating in multi-benefit conservation projects.¹⁰ These projects have shown that CREP projects can be used effectively to meet regional water conservation goals while also fitting within the land conservation purposes of the CREP.¹¹

To optimize the potential for these CREPs to be successful in meeting the needs of farmers and ranchers going forward, the next Farm Bill must increase the land rental rates to be on par with the rates paid for irrigated lands. Producers need to be fairly compensated when enrolling acres in CREP and retiring both land and irrigation water rights. This is not just a western issue because CREP payments for producers in the Republican River basin—which ultimately flows into the Missouri and then Mississippi rivers—and who live across the three states of Colorado, Nebraska, and Kansas, are not compensating producers for forbearing use of land and water and the concomitant loss of production value.

In addition, current CREPs require fully removing land from production, permanently retiring it from agricultural use, and converting it to cover vegetation.¹² Permanently retiring land is generally appropriate and successful for many projects, but an effective response to drought may require some flexibility and creativity in how producers in western states conserve water and implement conservation programs. In particular, allowing agricultural land to have some production value even if not irrigated may be critical to creating the economic resilience needed to maintain viable agricultural activities consistent with conservation purposes while also incentivizing retirement of sensitive, unproductive lands. With this flexibility under key circumstances, the CREPs can help avoid larger economic disruption of rural, agricultural communities that are being forced to adapt to drought conditions accelerated by climate change.¹³

[Resources Area.](#)” September 2011; USDA FSA, “[Fact Sheet: Conservation Reserve Enhancement Program Idaho Eastern Snake River Plain Aquifer.](#)” February 2017.

¹⁰ Ibid.

¹¹ While these two CREPs have focused primarily on decreasing groundwater use for irrigation and thereby increasing groundwater levels, both the Colorado Republican River and Nebraska Platte-Republican Resources Area CREPs list decreasing surface water use as a goal alongside a reduction in groundwater use. USDA FSA, “[Fact Sheet: Conservation Reserve Enhancement Program—Colorado Republican River.](#)” June 2019; USDA FSA, “[Fact Sheet: Conservation Reserve Enhancement Program—Kansas Upper Arkansas River.](#)” January 2017; USDA FSA, “[Fact Sheet: Conservation Reserve Enhancement Program Nebraska Platte-Republican River Resources Area.](#)” September 2011; USDA FSA, “[Fact Sheet: Conservation Reserve Enhancement Program Idaho Eastern Snake River Plain Aquifer.](#)” February 2017.

¹² Ibid.

¹³ For examples of agriculture’s “induced multiplier effect”—or the economic activity within a community including retail, restaurants, healthcare, etc., generated by agriculture—in Pinal and Yuma counties, Arizona, see: Ashley Kerna Bickel, Dari Duval, and George Frisvold, [Contribution of On-Farm Agriculture and Agribusiness to the Pinal County Economy: Economic Contribution Analyses for 2016](#), The Department of Agricultural and Resource Economics, The University of Arizona, December 2018, p. 7, 35-39; [A Case Study in Efficiency—Agriculture and Water Use in the Yuma, Arizona Area](#), Yuma County Agriculture Water Coalition, February 2015, p. 55-56. For the economic effects of a hypothetical reduction of 300,000 AF of irrigation water (and subsequent fallowing of fields) in Pinal County, see: Ashley Kerna Bickel, Dari Duval, and George Frisvold, [Contribution of On-Farm Agriculture and Agribusiness to the Pinal County Economy: Economic Contribution Analyses for 2016](#), The Department of Agricultural and Resource Economics, The University of Arizona, December 2018, p. 10-11, 41-50.

Emergency Watershed Protection (EWP) Program

The Emergency Watershed Protection (EWP) Program is an emergency response program that provides support for recovery efforts to fires, droughts, floods, and other natural disasters. In the West, the program has been used to respond to the effects of floods and fires, including the 2013 floods along Colorado's Front Range and the 2018 Dollar Ridge Fire in Utah's Strawberry River watershed.¹⁴ As the multi-agency report [Managing Infrastructure in the Stream Environment](#), authored by BOR, NRCS, and USFS under the Advisory Committee on Water Information Subcommittee, lays out, much of the infrastructure built in the early- to mid-twentieth century is at odds with riparian and watershed health and is reaching the end of its lifespan. This presents a chance to replace existing infrastructure in a way that incorporates ecosystem rehabilitation. Particularly when natural disasters create the need for infrastructure repair and replacement, there is "an opportunity to both increase infrastructure resiliency and rehabilitate stream ecosystems" at the same time with the multiple benefits of improved health and safety for communities, the increased ability of ecosystems to absorb and respond to future natural disasters, and improved watershed health.¹⁵

Climate change has increased the volatility and frequency of extreme weather events and the EWP Program can help respond to these disasters and build climate resilience for future events. While it is important to prepare for and respond to drought, flooding, as we have seen in California this year, is an equally important natural hazard for which we need to prepare. Changes to the EWP program would require the restoration of hydrologic function of the watershed to the maximum extent possible. This also lessens flood risk in the future, protecting aquatic habitats and the human communities in watersheds at risk for flooding. Currently, such hydrologic restoration is in agency regulations, though it has not yet been implemented.¹⁶ Therefore, the next Farm Bill should include statutory direction to implement this restoration work. In addition, the flood easement program should be bolstered to allow for the restoration of hydrologic function, rather than solely the narrow protection of land in the floodplain, under this program.

Conclusion

The recommendations provided in this testimony are not an exhaustive list of ways to help address drought and climate change for farmers and ranchers. The Conservation Title already provides funding for other practices that recognize the conservation value of activities that could be maximized to build greater resilience for agricultural producers going forward. Practices like switching to less water-intensive forage crops, applying soil-stabilizing, drought-resilient cover

¹⁴ [Colorado Watershed Protection Program](#): "Introduction and Planning Process," [Dollar Ridge Restoration Plan Draft Environmental Assessment](#), Utah Reclamation, Mitigation, & Conservation Commission, February 2023, p. 1.

¹⁵ "Introduction," [Managing Infrastructure in the Stream Environment](#), Advisory Committee on Water Information Subcommittee on Sedimentation Environment and Infrastructure Working Group, September 2017, p. 1.

¹⁶ Our suggestion, to adopt the multi-agency document and associated technical literature as the current standard to which to re-build infrastructure with EWP funding aligns with the EWP definition of eligible practices to "restore the hydraulic capacity to the natural environment to the maximum extent practical" 7 CFR 624.6(c)(3) (eligible practices) and is an appropriate and necessary step making EWP a more effective program.

crops on fallowed fields, no-till farming, and other practices should not be overlooked when considering ways to better promote effective, efficient agricultural and ecosystem health in increasingly water scarce environments.

Finally, in the interest of optimizing or synergizing existing conservation programs to address the current challenges confronting producers, it remains important to find ways to utilize Drought Mitigation Funding under IRA (Reclamation) or through the Bipartisan Infrastructure Law (BIL) in conjunction with Conservation Title programs to optimize the programs' intended outcomes. Drought is a widespread and vexing problem that requires using all the tools in the toolbox to find equitable and effective solutions. It also necessitates a diversity of programs and resources; conservation programs are an important piece of this puzzle, but it will require a coordinated, comprehensive approach from multiple agencies, affected state and local entities, and the diversity of stakeholders to fully take advantage of the opportunities to address current and future challenges in drought-affected watersheds.

TU's experience as a partner with farmers and ranchers on conservation program projects in the West and across the country has given our organization a unique perspective on how these programs can be improved for farmers, ranchers, and the environment. It is imperative that the next Farm Bill improve the delivery of these important programs and their benefits to confront the climate crisis and support the country's agricultural producers.

TU appreciates the attention given by this Committee to Conservation Title programs and western water issues. I thank you again for the opportunity to testify today.

QUESTIONS AND ANSWERS

APRIL 20, 2023

U.S. Senate Committee on Agriculture, Nutrition, and Forestry
Subcommittee on Conservation, Climate, Forestry, and Natural Resources
Conservation in the Farm Bill: Making Conservation Programs Work for Farmers and Ranchers
April 20, 2023
Questions for the Record
Mr. Joseluis Ortiz y Muniz

Chairman Michael F. Bennet

- 1.** Your testimony touched on the need for USDA to do more to increase accessibility for small, beginning, and minority farmers and ranchers to conservation programs. **What changes can Congress make to conservation programs increase accessibility?**

There are a few changes that Congress can make to conservation programs to increase accessibility, particularly for young, beginning, small, and farmers of color.

1. Through a 2022 survey of its network, the National Young Farmers Coalition identified that a major barrier to applying for conservation programs is that application processes are too complicated, and NRCS staff often lack the time and resources to aid farmers in navigating these processes. EQIP is the most popular NRCS program among young farmers, so Congress should establish a small farm EQIP program with dedicated funding and a simplified application process to aid young, beginning, small, and minority farmers in achieving their resilience goals.
2. Congress can also ensure that USDA resources, programs, and technical assistance are culturally appropriate. Pairing adequate outreach with culturally competent technical assistance is crucial to ensuring that more farmers are able to access the suite of NRCS programs that exist. By harnessing the strength of farmer-to-farmer learning networks, USDA can:
 - a. Advance knowledge of how to adopt conservation practices long-term, especially for cropping systems and/or geographic contexts that require under-researched tailored approaches,
 - b. Provide culturally appropriate education and social support with accompanying mental health benefits, and
 - c. Support communities that have been historically marginalized from traditional conservation programs by building on existing community leadership in grassroots and alternative structures.

Senator Peter Welch

In Vermont and other areas across the U.S., our agricultural land is under threat of development. The next generation of farmers are facing incredibly high land prices. They cannot afford to buy land that has been historically used for agricultural uses and the land goes to developers. The USDA Buy-Protect-Sell authority under ACEP-ALE could

address this issue. This authority needs to be improved so farmland across the country can remain in agricultural production.

1. Do you agree that ACEP Buy-Protect-Sell transactions can serve as an important tool for Congress to help get more affordable farmland in the hands of young and beginning farmers?

Absolutely. The 2018 Farm Bill created Buy-Protect-Sell transactions within ACEP as a way for land trusts to help facilitate the transfer of protected, affordable farmland to beginning farmers and ranchers. Fixing ACEP's Buy-Protect-Sell authority in the 2023 Farm Bill represents an easy way for Congress to help young farmers own their own farms without creating a new authorization or requiring additional funding. A functional Buy-Protect-Sell mechanism would be an important tool to supplement other mechanisms that are critical to helping young farmers with land access.

2. Right now, there are many restrictions on Buy-Protect-Sell (BPS) transactions, beyond those for standard ACEP-ALE transactions. Would specifying that the eligible entity landowner may be different from the eligible entity acquiring the easement, removing land sale price restrictions, and ensuring that BPS transactions have the same transaction timeline and land eligibility requirements as standard ALE transactions help increase the accessibility of this program? As

There is a need for more creative avenues for land access, and Buy-Protect-Sell is a proven model for facilitating land access for young and beginning farmers, especially those who have been historically underserved by the USDA and specifically those protected by treaties such as the treaty of Guadalupe Hidalgo. These are common sense changes that would make it much easier for eligible entities to use program funds as intended and support farmers in accessing land.

U.S. Senate Committee on Agriculture, Nutrition, and Forestry
Subcommittee on Conservation, Climate, Forestry, and Natural Resources
Conservation in the Farm Bill: Making Conservation Programs Work for Farmers and Ranchers
April 20, 2023
Questions for the Record
Dr. Sara Porterfield

Chairman Michael F. Bennet

1. Your testimony touched on multiple provisions in the 2018 Farm Bill to help producers and water managers cope with water scarcity – some of which are working well, while others need improvements. **What top changes does Trout Unlimited recommend Congress make to improve existing programs, or create new programs, to help alleviate drought?**

Climate change exacerbates drought conditions, causing uncertainty for agricultural producers and threatening environmental health. Landowners and partners need to know that conservation programs can deliver effective and efficient funding, have the capacity necessary to move projects from application to implementation, are not caught up in bureaucratic red tape, and are flexible in their ability to meet rising costs. Our over-arching recommendations are to streamline existing programs and to increase NRCS staffing capacity. My written testimony provides specific detail on Trout Unlimited’s recommended programmatic changes that I incorporate by reference here. Those proposed program authority changes are in service to the over-arching need to make Conservation Title programs more accessible to producers.

Program Streamlining

Producers across the country rely on conservation programs for multiple benefits, including improving their operations and realizing conservation benefits. However, these programs are not yet fulfilling their true potential because they are too often mired in bureaucratic inertia and laden with red tape. Producers’ biggest complaint about the Conservation Title—after too little funding—is how long and complex the process is to access the programs. To meet the urgent needs of drought in the West, the next Farm Bill must include legislative changes that help these important programs effectively and efficiently bring funding to the ground to improve producers’ operations, improve ecological health, and build resilience in the face of climate change.

Programs must be streamlined to improve the contracting process and cut down on the amount of time it takes to get funds to the ground. In addition, access to and availability of technical assistance for producers must be increased as this ensures that well-designed projects are implemented on the ground. Multiple layers of review should be eliminated and moved to a more efficient system to prevent projects from getting caught up in the planning and review processes, which often means the project cost increases during the review period and can potentially jeopardize sources of matching funds. Finally, projects that provide multiple benefits to watershed and fisheries health, rural communities, and agricultural producers should be prioritized. Projects that provide multiple, public benefits generate positive long-term economic

and non-economic outcomes for taxpayers. These benefits include improvements in fish or wildlife habitat and/or water quality, water conservation, improvements to instream flow or fish passage, and improved drought resilience.

Capacity

One overarching issue that affects agencies' program delivery is insufficient field staff to meet producer demand. This lack of capacity prevents good ideas from coming to fruition and inhibits producers from implementing needed changes to their operations to adapt to climate change. I have consistently heard from TU staff and partners that the lack of agency staff in the field hampers the implementation of conservation programs and is a major deterrent for partners and producers in bringing potential projects to agency staff. One of the top changes TU recommends is for the NRCS to increase staffing capacity across the agency to allow federal funding to get to the ground and realize benefits for producers and for conservation across the country. This will allow the agency to effectively address the needs of Western producers related to drought resilience and to respond to these needs in an efficient and timely manner. The NRCS and FSA need resources to hire qualified staff in the field for these programs to function as intended.

In addition to increasing staff support, partners need the flexibility to hire consultants who can provide much-needed capacity for technical assistance such as engineering work. The next Farm Bill should direct funding to increased agency staff capacity at the local field level and make changes to facilitate partners' ability to provide technical assistance to ensure conservation programs meet their intended goals and fulfill their mission of helping farmers and ranchers get conservation benefits to the ground.

2. The Colorado River basin and other basins across the country face historic levels of drought, putting critical fish and wildlife habitat at risk. **What ways can USDA and NRCS work across federal agencies, with entities like the Bureau of Reclamation, to strengthen farmer and rancher's resilience to drought while protecting the environment?**

Working lands provide enormous opportunity for cross-agency collaboration with drought resilience benefits. Restoration work on rangelands can help restore degraded natural meadow systems, improve local aquifer recharge and water retention, reconnect historic floodplains, and support productive meadows and riparian ecosystems.

The two examples shown here illustrate how such work can act as a powerful tool to combat drought and wildfire in the West:



Example 1 - Climate resilience from beaver-dam-assisted wetland complexes on Dixon Creel after this summer's Bootleg Fire burned over 412,000 acres north of Klamath Falls, Oregon (photo credit: TU's Charlie Erdman).



Example 2 - Drought resilience through beaver dam assisted hydrologic connection in the upper Colorado River Basin's Muddy Creek, tributary to the Little Snake River during the summer of 2021, one of the driest on record for the area. Planned restoration work aims to replicate this result along the creek's length (photo credit: TU's Nick Walrath).

Healthy and functioning riparian and wetland ecosystems are important for our producers, our environment, and our economy. Benefits quantified in a 2015 USDA-ERS study include: reduced public expenditures for post-disaster relief, nitrogen removal, carbon sequestration, and recreational amenities; and in many geographies the costs of wetland protection and restoration are exceeded by the benefits.

The Bipartisan Infrastructure Law (BIL) provided the Bureau of Reclamation with funding for natural infrastructure and aquatic ecosystem restoration work that supports the kinds of projects illustrated above through the WaterSMART Environmental Water Resources Projects and Aquatic Ecosystem Restoration Projects programs. Utilizing these funds in combination with NRCS projects using key practices that support rangeland health and build drought resilience

would help strengthen farmers' and ranchers' resilience to drought while protecting the environment.

Similar to the BIL's infusion of federal funding, the Inflation Reduction Act's Conservation Title funding has the potential to provide drought resilience while achieving the goals of increasing carbon sequestration or reducing greenhouse gas emissions. For example, implementation of Conservation Practice Standard (CPS) 643, Restoration of Rare or Declining Natural Communities, is similar to a provisional practice standard for wetland restoration to be included on the CSAF Mitigation Activities List of 2023, and could promote the kinds of restoration pictured above. Benefits are augmented when implemented in conjunction with prescribed grazing (CPS 528), which is already on the CSAF Mitigation Activities List of 2023. CPS 643 can be applied on degraded lands and re-establishes the abiotic and biotic conditions necessary to support rare or declining natural assemblages of native plants and animals. Applied on lands and ranches throughout the West, this CPS has been an important part of the NRCS Sage Grouse Initiative and has yielded demonstrable benefits. In addition to its direct benefits via the Sage Grouse Initiative, CPS 643 may provide greenhouse gas (GHG) emission reduction and carbon sequestration benefits via wetland restoration. Studies have demonstrated the potential wetlands have to increase carbon storage and avoid GHG emissions resulting from the conversion of natural habitat. Terrestrial or inland wetlands are North America's largest reservoir of carbon and use of this practice promotes public investment in additional carbon sequestration.