CASE STUDY

BRANDON FRANCIS

FARMINGTON, NM AND HESPERUS, CO

When Brandon Francis first left his home in Arizona to study in Colorado, his Auntie gave him a handful of heirloom seeds and said to him in Navajo, "'Wherever you plant these seeds, you will find like-minded people and they will become your family. And in that way, you will never be alone." Nurturing those seeds and the community that arose around them has become his life's work.

Brandon now works at the Agricultural Science Center for New Mexico State University in Farmington, New Mexico, and he also maintains two farms, one near Farmington and one at the Old Fort Market Gardens incubator in Hesperus, Colorado. Both sites sit within the Colorado River Basin.

FARMER: Brandon Francis

"Knowing the environment you are growing in and knowing its limits is key."

Brandon's approach to farming is to grow native crops that have adapted to thrive in the Southwest's arid climate. Through seed saving, he is working to make traditional plants, such as the "Three Sisters"—corn, beans and squash, more available to other native farmers and to further adapt those plants to the region's harsh conditions. His farm in Hesperus sits above 7,000 feet, which presents a special challenge because the growing season is so short–only 90 days. However, when planted together, corn, beans and squash have a better chance of succeeding: the squash leaves and vines provide ground cover to retain moisture, beans add nitrogen to the soil, and corn provides a trellis. By choosing the most successful specimens for seed saving, the crops will grow hardier year-after-year.

Growing drought-tolerant varieties that take care of each other is essential to Brandon's success since he is managing two properties and working a full-time job as well. Having access to water for irrigation is equally essential. The incubator farm in Hesperus uses spring water to irrigate, and they have been transitioning their irrigation equipment from overhead and flood irrigation to more efficient drip tape in order to save water. In Farmington, Brandon grows along the San Juan River and irrigates with water from earthen ditches, as well as two water storage tanks he installed as a safeguard.

KEY CONSERVATION CHALLENGES

ADAPTING TO CLIMATE CHANGE

WATER QUALITY

RECOMMENDATIONS

PROMOTE CLIMATE-RESILIENT AGRICULTURAL PRACTICES THROUGH CONSERVATION PROGRAMS LIKE EQIP

SUPPORT TRADITIONAL KNOWLEDGE

FULLY FUND USDA WORKING LAND CONSERVATION PROGRAMS

"Knowing the environment you are growing in and knowing its limits is key," he says. "It takes a lot of planning, and you have to know your water rights, especially if you are accessing a ditch [for irrigation]."

In addition to worrying about having enough water, Brandon is also concerned with the quality of his community's water. After the Gold King Mine spill flooded the Animas and San Juan Rivers with heavy metals in 2015, Brandon's work with New Mexico State University shifted to researching soil health and safe water access for communities along the river. As a member of the Navajo Nation, Brandon understands how integral the river is to Native people—70% of Navajo farmers grow along the San Juan River

"The river impacts them not just on an economic level or a level of health, it affects their well-being and spiritual well-being," he explains. "Navajos view all things as having life, and everything has to be revered and cared for in order to function correctly. If one part of that system breaks down, the whole system breaks down."

Brandon's work as a farmer and a researcher now involves helping his community become more resilient to climate change and other threats by reconnecting to their agricultural heritage. Brandon grew up subsistence farming with his family, but that is not true for all Navajo people anymore. He is more concerned with his people's future with farming than with his own.

"If we lose this integral part of our culture, we lose such things as language and ceremony, and that goes back to spiritual health," Brandon says. "If we lose our connection to land, it's all downhill after that."

In a 2017 survey by NYFC, 75% of young farmers described their farming practices as "sustainable." To support young farmers and their businesses, in other words, is to improve conservation outcomes.[1]

While many young farmers and ranchers struggle to afford farmland and access capital, Native Americans living on reservations face additional challenges because reservation land is often held in trust by an entity such as the tribe or the federal government. Without property to offer as collateral, it is next to impossible to obtain a loan for equipment, operating costs, or anything else. And farming on leased or borrowed land doesn't afford Brandon or other members of the Navajo Nation the security they need in order to invest in their farm businesses and prepare for the challenges brought by climate change.

"We are on the front lines of this battle for the future," Brandon says. "If we don't adapt our plants, get a handle on our water mismanagement, and build new forms of kinship, we have little hope of surviving what's coming next."

1. Building a Future With Farmers II: Results and Recommendations From the National Young Farmer Survey; National Young Farmers Coalition, 2017

CASE STUDY

JUSTICE BROTHERS RANCH

WADDELL, AZ

KEY CONSERVATION CHALLENGES

AFFORDING WATER CONSERVATION EQUIPMENT

TIME-CONSUMING APPLICATIONS FOR FEDERAL PROGRAMS

ADAPTING TO CLIMATE CHANGE

RECOMMENDATIONS

CREATE "MICRO" VERSIONS OF USDA PROGRAMS

PUT USDA PROGRAM APPLICATIONS ONLINE

PROMOTE CLIMATE-RESILIENT AGRICULTURAL PRACTICES THROUGH CONSERVATION PROGRAMS LIKE EQIP

Like many farm kids, Selwyn Justice had initial doubts about spending his life in agriculture. As a young man, he hit the road, trying to find his place.

"I went to 36 different states, and I never found anywhere I liked as much as Arizona," he says. Selwyn returned to his family's fourth-generation ranch in Waddell, just west of Phoenix, where he's been growing citrus and raising beef cattle alongside his father ever since.

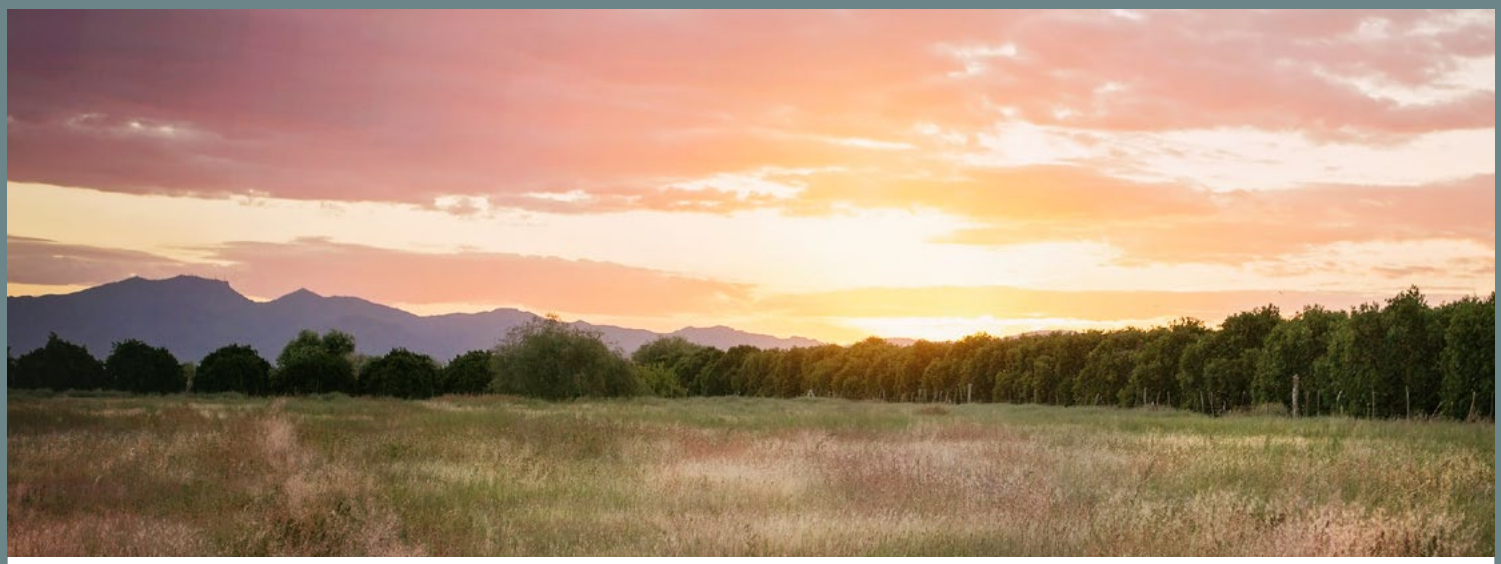
FARMER: *Selwyn Justice*

> "I'm a fifth-generation Arizonan, and as a desert-dweller, I have a strong, personal relationship to what little water that we have in the desert."

Justice Brothers Ranch was established in 1928 and now encompasses 115 acres of citrus orchards (navel oranges, red grapefruit, lemons and tangelos) and 250 acres of pasture for grass-fed beef. The farm's main property was one of the first certified-organic orchards in the state of Arizona. Selwyn's new project is a leased, 42-acre orchard he is turning into a u-pick operation, where customers come to harvest their own fruit. The property was originally an experiment station for the University of Arizona, and it contains about 90 varieties of citrus trees.

Improving and maintaining irrigation infrastructure is a big part of farming in the arid Southwest, and the u-pick orchard will be one of Selwyn's biggest undertakings to-date. UA originally installed a micro-sprinkler system on the property, but it wasn't used by the previous owner because it required close monitoring. Unlike flood irrigation, which involves little or no equipment, sprinkler systems can fail unexpectedly, leaving trees without water for too long in the desert heat. Selwyn says that bringing the system back online will cost $800 per acre just for the lines and sprinkler heads, not including the pump infrastructure, wiring, and filtration. Selwyn works part-time for an ag-tech start-up out of California, and one day he hopes to install innovative tech solutions that will help him monitor the sprinkler system remotely.

While irrigation equipment like micro-sprinklers and monitoring technology is expensive, Selwyn also believes it is essential to save water whenever he can.



"I'm a fifth-generation Arizonan, and as a desert-dweller, I have a strong, personal relationship to what little water that we have in the desert," he says. "I think it is important for everyone in the industry to be as judicious as they can, and most of the farmers that I know are."

Selwyn's understanding that his water source is finite is driven not just by the desert but by encroaching development that surrounds his orchard. Although he's only 28, he feels as if he has already witnessed a lifetime of change in his community—dirt roads where he once drove cattle on horseback are now paved, four-lane thoroughfares, and the neighboring orchard where he had his first job as a kid is now a subdivision. He hopes policymakers will protect his water access and put checks on the region's development. "Swimming pools and golf courses aren't necessary," he says. "Food and fiber are necessary."

For now, he plans to do all he can to conserve the water he has and to be transparent with his new neighbors so that they can see and understand his conservation measures. In the family's original orchard, they flood irrigate using a system of open ditches. Sprinklers or covered ditches would be more efficient, but are cost-prohibitive, and Selwyn hasn't yet been able to access any government cost-share programs to offset the expense. While larger orchards can afford to mortgage part of their land in order to get capital for infrastructure improvements, Selwyn wouldn't dare risk his family's hard-won acres. He is hopeful that we will be able to access funding to offset the cost of the sprinklers at his u-pick orchard, but he has also run into barriers applying for programs. Program applications aren't online, which means he drives 40 miles to his local USDA office to pick up the forms and 40 miles back to drop them off. Sometimes applications are confusing, and he spends extra time navigating the paperwork.

> In a 2017 survey by NYFC, 40% of young farm owners said that the application process for federal programs is too burdensome. USDA should continue exploring ways to streamline applications, reduce paperwork, and adjust oversight requirements. [1]

The need to conserve water in the desert is a constant, but Selwyn is also worried that climate change is shifting the rules faster than he can adapt.

"Our planning happens on a generational scale," Selwyn says. "The crop that I grow takes five years to start producing fruit."

Selwyn and his father are planning for a hotter, drier future by trying to anticipate more water shortages and reconsidering the tree varieties they plant. He worries his older trees won't be able to adapt, but the progress they've made thus far gives him some hope.

"Our water is doing more than we would have ever thought possible 50 years ago, and we continue to make improvements," Selwyn says. "That's part of water stewardship."

1. *Building a Future With Farmers II: Results and Recommendations From the National Young Farmer Survey*; National Young Farmers Coalition, 2017

CASE STUDY

RATTLEBOX FARM,

TUCSON, AZ

KEY CONSERVATION CHALLENGES

ADAPTING TO CLIMATE CHANGE

LACK OF INFORMATION ABOUT SMALL-SCALE FARMING IN ARID REGIONS

FEDERAL PROGRAMS NOT DESIGNED FOR SMALL FARMS

AFFORDABLE LAND ACCESS

RECOMMENDATIONS

CREATE "MICRO" VERSIONS OF USDA PROGRAMS

FULLY FUND USDA WORKING LAND CONSERVATION PROGRAMS

There is a section of Rattlebox Farm that Dana Helfer and her husband, Paul Buseck, refer to as "The Back 40" — it is an uncultivated strip that runs along the wash at the back of their property, providing habitat for native plants and animals. Despite its moniker, it is only two acres, but it represents some of the biggest dreams that Dana has for her farm as a whole.

"I want to grow food for my community, and in order to do that here, I have to do it in a way that is respectful of the environment I live in, because otherwise I won't be successful," Dana says. "I want to be able to do this for a long time, and I want other people to be able to do it."

FARMER: *Dana Helfer*

> "I want to grow food for my community, and in order to do that here, I have to do it in a way that is respectful of the environment I live in."

In total, Rattlebox Farm consists of 4.5 acres on the outskirts of Tucson, Arizona, one acre of which is dedicated to intensive, diversified vegetable production ten months of the year. But on the back two acres, Dana's long-term plans include building earthworks to capture rainwater and planting native species, all with the goal of fostering a verdant strip of land that will produce low-maintenance food crops for decades to come and have a cooling effect on the rest of the farm's microclimate. This is in a region that receives fewer than 12 inches of rainfall a year.

Dana and Paul's long-term planning for their farm's future reflects the years they spent searching for land to call their own. They originally started farming on a collection of four urban plots on the other side of Tucson, but they were dependent on city water for all of their irrigation, and as their farm grew, they risked being charged the higher rates that the city levies on heavy water users. Keeping up with four different locations was also taxing, so the couple began what would become a two-year search for farmland. They searched far and wide across California, New Mexico, Colorado, and Arizona, looking for affordable land that was near an urban area so they would have a strong community of support and market access. Above all, access to well water was their top priority.

"We were hearing from people that there was drought and drought and more drought, so relying on surface water seemed really sketchy," Dana says. " Water was almost more important than affordability."

They eventually found their farm by scouring records on the Department of Water Resources website, looking for properties with well access that was grandfathered in and thus had high enough usage caps to support vegetable farming. They know their well's water level dropped 50 feet between the 1970s and 2013, but they still feel more secure than if they were relying on surface water. Nevertheless, they are doing everything they can to limit their water usage. They use a time-controlled drip irrigation system to limit over-watering, and they check the moisture level in their beds frequently. The intensive planting method they use allows the plants themselves to act as a mulch, holding more water in the soil, and they also use a floating row cover for pest control, which further limits evaporation. They are tilling minimally, and they don't plant at all in early summer, when the climate is at its hottest and driest.

Dana and Paul have been farming together for nine years now, and they both have master's degrees in related fields and years of prior experience working on other farm and agriculture projects—Dana has worked for both the Natural Resource Conservation Districts and the home gardening program at the Community Food Bank of Arizona. But despite all of her experience, Dana still laments the lack of information she has about small-scale vegetable farming in the arid Southwest.

"I feel like so much of the agriculture research that's out there is for really big, conventional growers, and even if it is adapted for organic, it isn't adapted for our region or our small scale," she says.

> In a 2017 survey by NYFC, 22% of young farm owners said that federal programs don't meet their needs. USDA should create a "micro" version of every program possible to better serve the needs of small farms. [1]

Dana also wishes there was better financial support for the water harvesting strategies they are implementing on their property. During the monsoon season, water would run off their land in sheets, carrying off topsoil and failing to fully saturate the soil, so they paid someone with heavy equipment to change the flow of water and create earthworks to capture some of the rainfall. They have also planted 70 native trees so far and made other improvements that will hopefully aid in recharging the aquifer and benefit the community as a whole. They could take this conservation work much farther with support from cost-sharing programs.

Dana envisions all of these improvements paying off for years to come, long after her children are grown and she and Paul are too old to stoop and care for row crops. By then, she hopes the two-acre Back 40 will be in its prime, producing native crops and offering a cool oasis for birds and humans alike.

1. *Building a Future With Farmers II: Results and Recommendations From the National Young Farmer Survey*; National Young Farmers Coalition, 2017

CASE STUDY

BURK BEEF

MANCOS, CO

KEY CONSERVATION CHALLENGES

AFFORDING WATER CONSERVATION EQUIPMENT

TIME-CONSUMING APPLICATIONS FOR FEDERAL PROGRAMS

FEDERAL PROGRAMS NOT DESIGNED FOR SMALL FARMS

AFFORDABLE LAND ACCESS

RECOMMENDATIONS

CREATE "MICRO" VERSIONS OF USDA PROGRAMS

PUT USDA PROGRAM APPLICATIONS ONLINE

Dustin Stein is a Colorado native whose approach to ranching is informed, in part, by his love for Colorado's natural resources. All of his decisions at Burk Beef are focused on leaving the farm's pastures and waterways in better shape than he found them when he first started working the land five years ago.

Burk Beef is a 100-head cattle ranch in Mancos, Colorado that is owned by Jack and Patricia Burk. Before Dustin started working with the Burks, he tried to buy land to start his own farm, but finding affordable farmland with good water rights proved to be nearly impossible.

FARMER: *Dustin Stein*

"I was looking for some land to buy, and everything with decent water rights was so expensive that I was never confident that I would be able to pay the mortgage growing produce or raising cows," he says.

> "Irrigation is our life-blood—if we didn't have water, we couldn't have many cows here."

Farmland near Mancos, Colorado often sells for between $6,000 - $10,000 an acre, an incredibly steep sum for a beginning farmer. Dustin tried applying for an FSA loan, but he found the process full of paradox—before applying for the loan, he was required to be under contract with a property, but it was difficult to enter a contract without knowing if he would be approved for a loan.

While in the midst of searching for land, Dustin met the Burks. He soon knew he had found like-minded partners and mentors who could teach him about sustainable ranching. The Burks are equally pleased to have his help, and both parties see their partnership as a long-term endeavor. He is currently serving as ranch manager, and the Burks allowed Dustin the use of five acres so he could build a home.

The ranch consists of 143 acres owned by the Burks, which all has senior water rights. They also lease 200+ acres, some of which has junior water rights. Every year a call is placed on the Mancos River, making junior rights unreliable at best. In the arid Southwest, water rights are a key component to a farm's viability.

"Irrigation is our life-blood—if we didn't have water, we couldn't have many cows here," Dustin explains. "Managing the irrigation is the most important job I have."

Dustin uses gated pipe that was installed on the farm more than ten years ago to flood-irrigate most of the pastures. Some of the land is irrigated using side rolls, a type of automated sprinkler irrigation that moves in a line across a field, delivering water more efficiently than flood irrigation. Money and a lack of sufficient water pressure in some areas prevent Dustin and the Burks from installing side rolls on more of their land. No matter how the water is applied, Dustin monitors it with scientific precision. He accounts for precipitation, evapotranspiration, and how much irrigation water he applies, then he determines how long he can wait before applying more water.

His goal is always to conserve water while improving the pasture's biodiversity. Building organic matter is his primary approach since soil with high organic content absorbs moisture better and holds onto it longer. To increase organic matter, Dustin deploys holistic grazing, cover crops, and no-till seeding.

"I'm already seeing the benefits of proper grazing management," Dustin says, "We've seen substantial improvements in the plant density in the fields and the yields in our hay. Increasing organic matter is a long term game, and it often costs money upfront."

Investing in innovation is a cost that not all young farmers are able to afford. Thanks to his partnership with the Burks, Dustin doesn't have to find the capital for new projects on his own. Right now, for example, Dustin and the Burks are installing a new greenhouse at Burk Beef to grow barley fodder, an exciting alternative feed that is nutrient dense and uses less water than traditional hay production. But there are other conservation measures, like installing more efficient irrigation, that Dustin hasn't been able to afford. There are government conservation programs and farm programs that he has considered utilizing, but the capital investment required from the Burks and Dustin is still a barrier. New and expanding operations have to prioritize the most effective place to invest their money.

> In a 2017 survey by NYFC, 67% of young farmers said they farm fewer than 50 acres. USDA should create a "micro" version of every program possible to better serve the needs of small farms.[1]

Despite the high upfront costs, Dustin believes his sustainable approach to land management is good for his bottom line. "A lot of conservation makes sense from a business perspective," he says. "If you take care of your soil, you don't have to spend money on fertilizers and diesel and you can still increase yields."

In the Southwest, water is in high demand, and Dustin worries that more water from his region could be diverted across the Continental Divide to feed growing cities along Colorado's Front Range and elsewhere. He knows that once the water is gone, it's not coming back. As a farmer, he needs the water to grow food and keep the community whole. As someone who loves Colorado's natural beauty, he wants to see some of Colorado's water stay in the state's natural waterways. Though it has run low for several decades due to drought and diversions, Dustin hopes to someday fish the Mancos River.

1. *Building a Future With Farmers II: Results and Recommendations From the National Young Farmer Survey*; National Young Farmers Coalition, 2017

CASE STUDY

RED TRACTOR FARM

ALBUQUERQUE, NM

KEY CONSERVATION CHALLENGES

AFFORDING WATER CONSERVATION EQUIPMENT

TIME-CONSUMING APPLICATIONS FOR FEDERAL PROGRAMS

FEDERAL PROGRAMS NOT DESIGNED FOR SMALL FARMS

AFFORDABLE LAND ACCESS

RECOMMENDATIONS

CREATE "MICRO" VERSIONS OF USDA PROGRAMS

PUT USDA PROGRAM APPLICATIONS ONLINE

Nestled on a quiet residential street just a stone's throw from the Rio Grande in Albuquerque sits Red Tractor Farm, a 2.5-acre diversified vegetable operation that is woman-owned and operated. One of those women is the farm's manager, Casey Holland, who has made farming her full-time career for the past seven years.

Casey was born and raised in New Mexico, which is a state that straddles two river basins: the Colorado and the Rio Grande. Casey was drawn to farming because it seemed like the perfect way to exercise her conservation values.

FARMER: *Casey Holland*

"Even though I didn't have any experience working on a farm, I wanted something to do where I could really live my ethic and have a big impact on the way that others consume resources," she says.

> "I wanted something to do where I could really live my ethic and have a big impact on the way that others consume resources."

Those ethics include a strong belief that community building is a path toward climate change resilience, and that community resources, like water, should be used intentionally. To that end, the Red Tractor farmers sell much of their produce via a CSA (community supported agriculture) program through which customers pay in advance for a share of the farm's products, then pick up their share at the farm every week during the growing season.

To further engage with the community, in 2017 Casey began splitting her time between Red Tractor and the Chispas Farm, which has a mission focused on agricultural education. Like most farms in the Southwest, both Red Tractor and Chispas rely on irrigation to grow their crops, and like most farmers in the region, Casey has, over time, gained a deep knowledge of her farm's irrigation system and conserving water. Both farms use irrigation water from an acequia, a community-managed irrigation canal. The acequia is managed by a ditch rider–often known as a Mayordomo in New Mexico–who Casey knows by name and who works with farmers in the community to make sure they understand which properties can access water at what times and why. Acequias are unique in the West in that water users, or *parciantes*, share water in times of shortage.

Water that flows out of the acequia isn't filtered. This makes it difficult for Casey to run efficient irrigation equipment, such as drip tape, off the acequia because sediment and debris in the water will clog the hoses and nozzles on the equipment. Casey plans to add a filter system to the farm but it is currently cost-prohibitive on top of the other investment costs on her farm. Because of this, when Casey makes use of acequia water, she uses a technique called flood irrigation through which water flows directly from the ditch onto her fields. Compared to using drip tape, flood irrigation isn't as efficient because more water is lost to evaporation, percolation, and runoff; however even that water is put to use—one of the benefits of urban farms is that, compared with paved city surfaces, they allow for more water to filter back into the underground aquifer. The aquifer also benefits Red Tractor directly: while Casey reserves acequia water to irrigate her cover crops, she uses well water to irrigate all of the food crops. Using well water allows Casey to diversify her irrigation sources and techniques, and be more efficient by employing drip tape and timers to carefully target the amount of water she uses.

Casey dreams of owning her own farm someday, but making that dream a reality seems many years off, thanks in large part to her student loan debt. Many young farmers face the same hurdle: with high debt-to-income ratios, obtaining capital to invest in land or equipment is often extremely difficult for farmers with existing student loan debt. Since 2015, Casey has been advocating for student debt relief for farmers through her position as a board member with the Rio Grande Farmers Coalition, an affiliate chapter of the National Young Farmers Coalition (NYFC), and by participating in NYFC's 2017 D.C. fly-in in which Casey met directly with her Congressional representatives.

> In a 2017 survey by NYFC, 40% of farm owners reported that applications for federal programs are too burdensome. The biggest barriers they named—unfamiliarity with federal programs, burdensome paperwork, and not enough time to apply—are also the most solvable.[1]

Another policy point that Casey believes in strongly is the value of small farms. She is interested in applying for government conservation programs or grants, but often finds that the scale of her operation and the timing of applications means the cost/reward for application and participation seldom works in her favor.

"People say that because we are a small farm we don't make a significant impact," Casey says. "But in actuality it is because we are small that we can do things like host more members of the community on the farm so they see the ways we are conserving resources. I think that if we were able to access more government programs it would significantly increase our impact."

1. *Building a Future With Farmers II: Results and Recommendations From the National Young Farmer Survey*; National Young Farmers Coalition, 2017

CASE STUDY

LADDER RANCH

SAVERY, WY

KEY CHALLENGES

IN THE NEXT 20 YEARS, TWO-THIRDS OF AGRICULTURAL LAND IN THE UNITED STATES WILL TRANSFER HANDS

RECOMMENDATIONS

CREATE PATHWAYS FOR YOUNG PRODUCERS TO ASSUME CONTROL OF EXISTING FARMS AND RANCHES

Growing up in rural Wyoming, almost everyone Ea'mon O'Toole knew was a rancher—he didn't know there was any other way of life, and he assumed that all ranches were created equal.

"Until I went to college I didn't realize what a unique place we live in as far as quality of grass and the general beauty of where we live," he says. "And our operation was put together by the four generations before me, and they put together a really good ranch. That's when I realized that it was pretty special and that I wanted to go home and be part of it."

FARMER: *Ea'mon O'Toole*

> "If we don't take care of the land, then it won't take care of us – that's our main motto."

The O'Tooles own and operate Ladder Ranch in Savery, Wyoming, which was started by Ea'mon's maternal great-great-grandparents in 1881. The ranch operates in three states and six counties, including land leased from the Bureau of Land Management, the Forest Service, and private landholders. Ea'mon's parents, Pat and Sharon (profiled in NYFC's 2015 case studies), manage the operation as a whole, while he oversees their 1,000-head cow-calf business and his sister Megan manages 7,000 head of sheep. Hunting and fishing leases provide the family with a little extra income, but ranching is still their bread and butter.

To protect the unique beauty of their land and their legacy, the family has long adhered to strong conservation values.

"My grandfather started rotationally grazing in the 1950s, and he was really ahead of his time," Ea'mon says.

Ea'mon's grandfather was perfectly positioned to take a few risks and try something new and innovative—as a third-generation rancher, he had enough land that he could afford to experiment a little without risking his whole operation. When Ea'mon's parents, Pat and Sharon, took over the ranch, they started working to improve the health of the grass and soil in their hay meadows by adapting their grazing practices. They also worked in partnership with organizations like Trout Unlimited and Partners for Conservation to become better stewards of the eight miles of river that wind through their property. The section of Battle Creek they

manage now has 53 river structures, which ensure that fish always have enough water, even when the O'Tooles are pulling water from the river to irrigate their pastures.

The O'Toole's flood-irrigate the majority of their land, using water that flows out of the river and into canals. They use a side roll to irrigate 150 acres, and a pivot to irrigate an additional 50 acres. Both pivots and side rolls water more efficiently and leave water in the river for fish and other wildlife, but they are expensive investments. Pivots require the least labor to operate, compared with side rolls and flood irrigation, which is an increasing consideration as qualified labor becomes more and more difficult to find. The O'Tooles used funds from the NRCS EQIP program and Trout Unlimited to help fund their pivot system, and they hope to install more pivots in the future.

Ea'mon says he is fortunate that his family is able to divide and conquer all of the essential tasks that make their ranch successful. In addition to other responsibilities, his mother and sister keep up with all of the applications and paperwork that make it possible to work with organizations like NRCS. On smaller operations with fewer staff, farmers and ranchers often struggle to find time to apply for conservation programs. In addition to their ranch duties, everyone in Ea'mon's family is active in their community and with organizations working to make farming and ranching more financially sustainable professions. Ea'mon is on the board of the American Farmland Trust and is a Region 5 Young Beef Leader for the National Cattleman's Beef Association. He has made increasing the number of young farmers and ranchers his top priority.

In a 2017 survey by NYFC, young farmers who grew up on a farm ranked family and/or cultural knowledge as the third most helpful policy, program, or institution cited. Multi-generation farms are more likely to be bigger and more likely to access federal programs. [1]

"In the next 20 years, two-thirds of our ag land in the United States is going to transfer hands, and I don't want to see it go to corporate ranches or turn into cities," he says. "I think getting young producers on the land is the way to do it so more families can bring their kids back to help with their operation."

At Ladder Ranch, the O'Toole's are already thinking about generation number six. Ea'mon has two sons, and his sister Megan has four children.

"Our kids are number one in our minds, and we want to have an operation that's sustainable for them also," he says. "We're not just thinking about the next generation, we're also trying to keep people employed and keep our local economy going. If we don't take care of the land, then it won't take care of us – that's our main motto."

1. *Building a Future With Farmers II: Results and Recommendations From the National Young Farmer Survey*; National Young Farmers Coalition, 2017