



**“It is through  
focused coalitions  
that we can truly  
make a difference”**

**- Roger Cornwell**

*Roger Cornwell, general manager at River Garden Farms, holds up a sample of zooplankton grown on rice fields during winter months*

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## The many benefits of growing plump, gourmet bugs

It is the dead of winter but the rice fields outside of Knights Landing are full of life. It's the slowest time of year for most farmers; crops have been harvested and the spring planting season is months away. While most farmers patiently await the turn of season, our friends at River Garden Farms are busy producing a new type of food.

Roger Cornwell, the General Manager of River Garden Farms, knows there isn't any money in growing tiny insects, but he's banking on it leading to riches in another sense. The spineless orange bugs, known as cladocerans but also called a water flea, are no larger than a grain of rice, but they are the preferred meal of California's Chinook salmon. Partnering with UC Davis, Cal Trout and State Water Contractors, Cornwell is hoping these tiny crustaceans thriving on his rice fields can lead to a rebound of the salmon's declining population numbers.

"There just aren't enough of these insects in the Sacramento River to properly feed juvenile salmon," said Cornwell. "The water is too cold and swift for the bugs to survive, leaving many malnourished salmon that are simply not strong enough to reach the Pacific Ocean." On Roger's rice fields however, these bugs reproduce with enthusiasm.

"When the fish are able to eat these insects found on the rice fields, the salmon grow three times the size of their counterparts which are forced to only eat what's currently in the river," said Cornwell. Now endearingly known as *floodplain fatties*, the increase in physical size is a positive indicator for survival; a promising development in the troubled history of this Northern California native species. Growing stronger, more agile and with the ability to prevail when food supplies are low, these floodplain fatties are seeing far improved odds at making it to the Pacific Ocean.

Since the fish can't swim out onto River Garden Farm's rice fields, Roger has teamed up with scientists to create a Blue Apron-style food delivery for the salmon. "The process is fairly simple. We are borrowing the water from the river during the winter months, letting it sit out on the rice fields for a few weeks and then delivering the water back into the river recharged and full of bugs."

The insects are able to reproduce at significant rates once sunlight breaks down the remaining rice straw, turning it into algae. The bugs feed off the algae and after a few weeks, the water is drained into the river for the young salmon. Then begins an epic chow down that would make Joey Chestnut look like an amateur.

"We want to create an all-you-can-eat buffet for these salmon to help increase the number that will eventually return to spawn in the upper channels of the Sacramento River."

It is there in the upper channels where you will find River Garden Farms' second significant project to help salmon. Located on the edge of Redding, Cornwell has partnered with scientists, Northern California Water Agency, National Marine Fisheries Service, Western Shasta Resource Conservation District and the US Bureau of Reclamation to provide salmon fry with shelter from larger prey.

Using walnut trees bolted to granite boulders, the 25 structures serve as protection from the swift current and larger predators. The program is already showing great progress. Natural resource scientist Dave Vogel reports he is discovering a record-breaking number of fish passing underneath the Bonnyview Bridge.

"We believe we can play an important role in helping salmon in various times of their lifecycle. All it takes is collaboration instead of infighting, and it is through focused coalitions that we can truly make a difference," said Cornwell.

For Cornwell, the efforts won't stop with these projects. As he sees it, River Garden Farms is just getting started.

So next time you see a flooded rice field in the middle of January, it may just be a farmer in the middle of his bug-growing season.





**“That simple act  
would help set the  
Gorrill family on  
a tradition of  
conservation.”**



**- Corrie Davis**

*Pictured here:  
Seven of Ralph Gorrill's ten  
grandchildren, 3rd generation  
Gorrill Ranch*

*Reverse:  
Corrie Davis, 4th generation  
Gorrill Ranch*

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## **When life gives you clay, build a legacy.**

Ralph Gorrill was one of those astute types. Give him a problem and he'd find your answer at the tip of his drafting pencil. A builder seemingly from birth, it was fitting that he'd be found nose deep in back-breaking, 50-pound text books at the University of California, Berkeley. Just below the famed Campanile Clock Tower, Ralph found himself confident that he would soon be an engineer - just like his brothers.

With a degree in hand, Gorrill landed 150 miles north of the East Bay, following his brothers in hopes of finding work in the rural Sacramento Valley. "It was in Butte County where his brothers were landing work, so it was only natural at the time our great-grandfather would follow," said Corrie Davis, a fourth-generation family member who serves as the managing partner and chairman at Gorrill Ranch.

In the year 1917, before the modern day Highway 99, only a variety of country roads connected the rural towns of Northern California but Ralph landed a job creating a better route for ranchers and farmers delivering cattle and wheat. With his drafting pencil in hand, Ralph drew up a solution for the main road, known as the Midway, that would cut hours off of delivery times. "Little did he know that this two lane strip of roadway would wind up setting him on an entirely new path."

The Leland Stanford Trustees were looking to sell their 17,000 acre Durham Ranch (a portion of which had been purchased by Ralph) along none other than that very strip of concrete Ralph had helped create. As his brother-in-law was also the ranch manager on LST farm, the engineer had an inside track on all the relevant gossip. "What has always fascinated the family, is that our great-grandfather wasn't a farmer, yet he was confident that he could make use of this farm that hugged Butte Creek. He saw real potential there," said Davis.

A thick adobe clay spanned the property, which meant this land was prime for something other than cattle. The unique soil combination was best suited for rice. (Gorrill Ranch is now known internationally for their quality premium rice.) In a state that is no stranger to prolonged droughts, Gorrill wanted to make sure he used whatever water he had, as efficiently as he could. "He truly became fixated on constructing the best irrigation system in the Sacramento Valley." Using gravity and leveling the clay at precise angles, Ralph crafted a sprawling web of water that reached every bend, edge, and corner of his fields. "He never knew the meaning of doing something halfway. He built his labyrinth of pipes so well that our family still uses that same irrigation system to this day." Whether he knew it or not that simple act would help set the Gorrill family on a tradition of conservation.

When he passed away in 1964, Ralph's daughters Sally, Jane and Anne took over the farm. For some families, another generation of non-traditional farmers would mean it's time to sell. But for descendants of Ralph Gorrill - that would be called giving up.

Throughout their reign on the family ranch, the sisters turned their attention up to the sky, down below the creek surface, and into the surrounding native groves. First, helping to create a comfortable place for birds to rest along the Pacific Flyway with their rice fields, and second, thanks to the sisters, there are now 40 acres of land set aside as an environmental preserve.

Ralph's ten grandchildren soon joined their mothers in leading the farm. Their timing couldn't have been better to help their underwater friends in Butte Creek. By the late 1990s, Chinook salmon were disappearing at an alarming rate. "We owe much of our success to Butte Creek," added Davis. "And our family knew it was time to prevent the creek's main inhabitants from disappearing." Joining other neighbors, many whom operate along the same Midway trail that Ralph once helped design, the Gorrills and this coalition of farmers, environmental groups, and other agencies dove head first into a massive restoration project known as the Butte Creek Fish Restoration Project. The group retrofitted dams and screens to protect fish from entering irrigation systems, then built fish ladders to help the fish swim upstream throughout the summer and winter months.

Today, 10,000 fish make their way through each spring spawning season. "It truly is one of those projects our family holds dear to our hearts. To see this rebound in the salmon shows what is possible when we all come together." Statewide, California's salmon are still in trouble as population numbers remain dangerously low. The Gorrill family believes it is a problem that will be solved, and it is hard to deny their optimism. With a family tradition of problem solving and helping native species now a century old, they're simply staying the course - and as they've proven time and again, they certainly aren't afraid to draw up a solution to a problem when called upon.





**“These fish will suffer  
the same fate if we don’t  
adapt our practices  
to improve their  
habitat.”**

**- Fritz Durst**

*Pictured: Fritz Durst*

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## In firm defense of staring at the ground

While the rest of the world was watching a flying DeLorean, humming along with a material girl and marveling at a man taking flight on a basketball court, Fritz Durst's attention was transfixed on the ground. It was 1985 and Back to the Future was a box office smash, Madonna was leading a musical revolution and Michael "Air" Jordan was taking the NBA to new heights. Despite all the flashing fluorescence of this new material world, Durst had other things on his mind. He didn't grow up idolizing pop culture figures. His heroes were out in the fields, muddled to the knees by sunrise.

"From a young age, I felt a strong tie to our family farm. It is a place that was special to me as far back as I can remember," said Durst, currently leading Tule Farms into its sixth generation. At five years old, Fritz was an extension of his father Oscar's shadow, eager to learn the ropes of a proud family business. Most days, you'd find young Fritz following his father up and down the steps of his tractor. At this young age, Fritz was unaware of an ongoing struggle his father endured, fighting to making their land productive. In one of the most fertile landscapes in the world, Oscar's crops remained defiant.

"My father tried adding nitrogen and phosphorus fertilizers to the soil, even rotating crops from field to field, but there were still shortcomings that we couldn't quite explain." After earning his degree from nearby UC Davis, Fritz returned to the farm in the mid-1980s with a new perspective on the stubborn crops. When the winter months passed, trenches as deep as grave sites stretched hundreds of yards in the fields. "6 feet deep is where our farm will be if we don't do something to rejuvenate the soil," Fritz recalls. Bucking the trends of traditional farming, the Dursts decided to try something radical - and left the tiller parked. By any usual standard, soil is tilled before seeds are sown but Fritz knew - if they continued to farm by the usual standard, there wouldn't be any soil left.

"We began using a no-till technique. Which means we plant wheat and barley directly into the residue of last season's crop." It was a revolutionary idea, but Fritz believed there had been too much focus on the crop and not enough attention to what lies beneath it. "If I give back to the soil, the soil will give back to me." And that it did. As the rains no longer washed away the loose soil, never again would Fritz's farm resemble a mass grave site.

Since that day, Fritz watched his soil produce increasingly high-quality crops and hold more moisture throughout the year, which led to far less watering and in the case of dry farmed fields, higher yields. The unforeseen gift inspired this Yolo County farmer to rethink the scope of his operation entirely and to give back in ways that benefit the bigger picture.

Today, Tule Farms in Dunnigan Hills is more than rows of wheat, wine grapes and sunflowers - it is a beacon of environmental stewardship and home to several endangered species, as well as numerous other forms of wildlife; garter snakes, longhorn Elderberry beetles, Swainson's Hawk, bald eagles and even Kangaroo rats, to name just a few.

As the Durst family name becomes more synonymous with conservation and stewardship, Fritz doesn't rest his laurels on name recognition. He has joined a team of other farmers in the Sacramento Valley who use their own farm fields and water to help benefit California's native species. From birds overhead to fish underwater, Durst is lending a hand to maintain bird refuges, increase critical reptile habitat and feed more fish.

Times have surely changed since the 1980s - Back to the Future has been replaced with Wonder Woman, Madonna with Lady Gaga and Michael Jordan with LeBron James. Fritz's fields have gone from rough to lush to natural habitat, and he now sets his sight on helping young endangered salmon. "The world has been changing for a long time" Fritz says, "the most important thing we can do is manage that change. If we stop adapting, we'll end up like the dinosaurs - extinct. And these fish will suffer the same fate if we don't adapt our practices to improve their habitat."

Today, living amongst a cornucopia of crops and native wildlife, Fritz continues to keep an open mind for any lessons the earth might have to offer. Ready to uncover any other parts of the valley that might need his attention, he offers a simple reminder - "it all started by peering a bit deeper into the ground."





**“It is more critical  
than ever that we work  
in partnership with  
farmers to ensure a  
balance for crops  
and wildlife”**



**- Virginia Getz**

*Pictured: Virginia Getz*

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## **The Radiant Biologist.**

Virginia was feeling a bit down.

She was hoping to land an internship during the summer break. Prospects were bleak. Virginia's attitude even more so.

Ever since she was eight years old, Ed could see it in her eyes. His little girl was destined to become a biologist. But during a pivotal moment in Virginia's life, Ed watched as the glow faded from his daughter's eyes.

Back home in Pacific Grove for the summer, Ed could not stomach the sight of his youngest daughter moping around any longer. He packed up the car and the pair hit Highway 101 back to the University of California, Davis.

Virginia wasn't sure how much good the trip would do. Many of her classmates were already eyeing different careers. This was at a time when there were fewer nonprofit organizations and public agencies wanted people with significant wildlife management.

Professor Dennis Raveling could see Virginia's passion. He was not about to let her fall off track. The respected waterfowl advocate and scientist pushed Virginia to follow her dream. The summer chat gave her the confidence she needed. And Ed would once again see the glow was back.

The shine would become nearly blinding as Virginia landed her first job. Hired as a U.S. Forest Service deer monitor, she was out in different parts of the Sierra Nevada nearly every week.

But little did she know that a duck hunting trip would take her to new heights. She didn't get any ducks that day but being out in the field with the waterfowl spoke to her in a way that no other species had before.

"The first time I heard the noise of a big flock of snow geese it made my heart race."

Virginia would get to follow the flight path of these birds to her next adventure. By the early 2000s, the waterfowl conservation organization Ducks Unlimited came calling. And today, Getz is the conservation programs manager, which means she oversees habitat conservation in California, Nevada, Hawaii, and Arizona.

Her challenge is no longer finding work but finding ways to make the program she oversees work as efficiently as possible.

"Good science isn't enough; demand and costs of water may be putting birds at risk," said Getz. "We have to find ways to ensure habitat and population gains we've made since the 1980s don't slip in the coming years."


Bird populations and duck habitats rely on water spread out on wetlands and ricelands throughout the Sacramento Valley during the winter months.

"We are heavily reliant on agricultural lands for waterfowl habitat, which means it is more critical than ever that we work in partnership with farmers to ensure a balance for crops and wildlife," said Getz.

Ducks Unlimited works with landowners, farmers, water districts and state and federal agencies to create habitat for ducks and other migrating birds. To date, the organization has worked on 1,300 conservation projects spanning 719,000 acres of habitat in California alone. Getz is at the center of many of them. And it all goes back to a father who believed in his daughter and a professor who provided a bit of optimism to an aspiring biologist.







**“It is astounding what  
you can accomplish  
when you spend more  
time on the positive  
aspects and truly  
collaborate.”**



**- Brent Hastey**

*Pictured: Brent Hastey*

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## **Son of a Rancher's Daughter**

A trail of dust swirled behind the '57 Chevy pickup as it barreled down the path in an attempt to keep the herd in the pasture. Not one's typical choice to prevent the cattle from veering off course, but when you're nine months pregnant, it is a bit easier to maneuver when you have a 160 horsepower, V8 engine on your side.

As a cattle rancher's daughter, June did whatever was needed at the time to get the job done. A trait that she would pass on to the child that would be born later that day.

Brent Hastey grew up on that very same ranch in Yuba County, but he wouldn't follow in the tire tracks of his mother. Cattle ranching would remain dear to his heart, but he was set to create his own path.

It was 1986 and California was dealing with what the press called a "tropical cocktail." But this was no vacation. After a week, two plus feet of rain was measured in the Sacramento Valley. So much liquid fell from the sky that bridges were ripped away from their foundations and holes were left in levees. In Yuba County, 20,000 people from their homes in a matter of seconds.

When the sun finally appeared again, people demanded action. The entire Reclamation Board Directors quit or were replaced, and Brent was asked to step in at the age of 26.

Hastey would learn that his own "tropical cocktail" would come a decade later. The New Year's Day flood of 1997 saw the South Yuba River rise 26 feet above normal. Neighbors watched in horror as trailer homes, sheds, trees and anything else near the banks floated down the river.

As Brent canoed his family through their house to safety, he knew this was going to tear the community apart or bring it together. It did the latter. Once an adversary, the South Yuba River Citizens League and Hastey found common ground in the raging flood waters.

A partnership was born in one of the darkest times for Yuba County, giving a ray of light to the future of water and habitat management – something that was hotly debated for decades in the county. The Yuba Water Agency and the South Yuba River Citizens League started working together on critical habitat for native species. The blend of flood control and conservation has become a model for others in the state to emulate.

"It is astounding what you can accomplish when you spend more time on the positive aspects and truly collaborate."

Hastey is now taking this approach on a statewide level in his role as President of the Association of California Water Agencies. He hopes similar results can materialize that will encourage new collaboration and develop stronger coalitions to solve the state's water problems.

As for June, she is now in her late 80s and is still out there in the field. Albeit this time, she's not driving a truck but riding a lawn mower.



**“Projects that deliver  
multiple benefits can  
become the model  
throughout the entire  
Central Valley”**



**Ann Hayden**

*Pictured: Ann Hayden,  
Senior Director of Western  
Water & Resilient Landscapes*

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## The Collaborative Habitat Creator

The lure of a ten-speed bike was all it took. This was no ordinary bicycle, however. This was a radiant red Schwinn with swooping sight lines, 10 gears of unfettered pedal power that would serve as a freedom chaser to propel 9-year-old Ann Hayden to explore country roads in her rural Yolo County neighborhood. And Ann was ready to go.

Her parents, on the other hand, weren't about to bend so easily to a simple plea from their daughter. A deal was struck instead. Her parents would buy the bike if Ann completed a year of 4-H, the agricultural youth development program, which her brothers had been participating in for years. She chose to raise what she figured would be the easiest animal: a sheep.

Despite Ann's unwavering dedication, as the 4-H showcase began, and the other kids had calmed their sheep as they waited their turn in the show rink, her skittish lamb broke loose which turned quickly into spontaneous entertainment for the crowd. Finally, after what seemed like an eternity to Ann, the dust finally settled and the lamb was captured. Despite all the ruckus, a red-faced Ann stepped up and proudly showed her lamb, which was sold to the highest bidder of the day. With that, she was able to secure the 10-speed she so deeply desired.

Ann could not have known then, but this fortuitous moment would aid her when approaching unwieldy challenges as senior director of western water at Environmental Defense Fund (EDF) decades later.

"It taught me the importance of being flexible and maintaining my cool when the least-expected situation arises," Ann said. "And it's always a valuable lesson to keep a sense of humor and humility in seemingly unfixable circumstances."


Ann has worked with Sacramento Valley farmers to create suitable habitat on working fields while also helping landowners improve their ability to recover from conditions related to climate change, such as when flood waters are moved across the landscape. "Creating this habitat has real ecological value, which farmers can be paid for producing by both public and private funding sources."

Ann and her team developed ways to quantify the habitat benefits for a suite of at-risk species including Swainson's hawk, Giant garter snake, Monarch butterfly and juvenile Chinook salmon. She's worked directly with innovative growers at Davis Ranches and River Garden Farms to identify the optimum places to create habitat and a system to measure habitat benefits over time. In particular, Ann is encouraged about efforts currently underway to quantify habitat improvements for endangered salmon as a way of building more integrated and resilient ecosystems and water systems.

But these projects can't be successful without a foundation of trust between environmental interests and farmers.

"My hope is that innovative, on the ground projects that deliver multiple benefits can become the model throughout the entire Central Valley in California. As more stakeholders come together to draft a unified vision of the valley, including integrated land and water management, the better chance we have at striking a balance where people and wildlife thrive."





**“Water, food and land  
are the three main  
ingredients that boost  
bird populations,  
and farm fields can  
ensure bird species  
continue to thrive.”**



**- Meghan Hertel**

*Pictured: Meghan Hertel,  
Director of Land and Water  
Conservation, California  
Audubon*

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## **Birds, farms and a Carolina girl.**

There wasn't an older brother or sister. Single mother worked full time, and in an age when this was normal, the outdoors became her babysitter.

Few of her friends lived in the same Pinehurst, North Carolina neighborhood, so Meghan was left with the trees, rocks and her imagination to pass the time. She didn't know it then, but those days under the southern sun would play a vital role in shaping her adult life.

Not sure if it was the Fisher-Price toy barn set that glamorized the trade, but Meghan had a calling. As a 21-year-old, the Carolina girl would fall in love with one of America's first professions, farming.

Days after graduating college, Meghan would find herself outside of Atlanta taping tomato vines, laying irrigation lines and packing up blueberries to sell at the local farmer's market. But, something was amiss.

"Farming is extremely hard work; it is nothing like what I imagined or dreamt it to be as a little girl," said Hertel. "After putting the farmer's tractor out of commission. The writing was in the soil. It was time for me to move on."

Landing in Sacramento, Meghan believed she could blend her understanding of farming with her love for nature. "You don't have to do one or the other. We need to figure how to balance both the production of our food with environmental stewardship. How to help the environment in urban and rural areas."

Audubon California provided just the opportunity. In her role as Director of Land and Water Conservation, Hertel discovered birds offer a key to understanding the overall health of a particular environment.

"Birds, like us, need clean air, clean water, and they are often the first to respond when conditions take a turn for the worse. They are the canaries in the coal mine in nature. Where birds thrive, people thrive."

And the people Hertel is helping are the vast number of farmers throughout the Sacramento Valley. She is providing them with the tools and knowledge to demonstrate how birds and insects on farmlands can result in a positive impact on crop production.

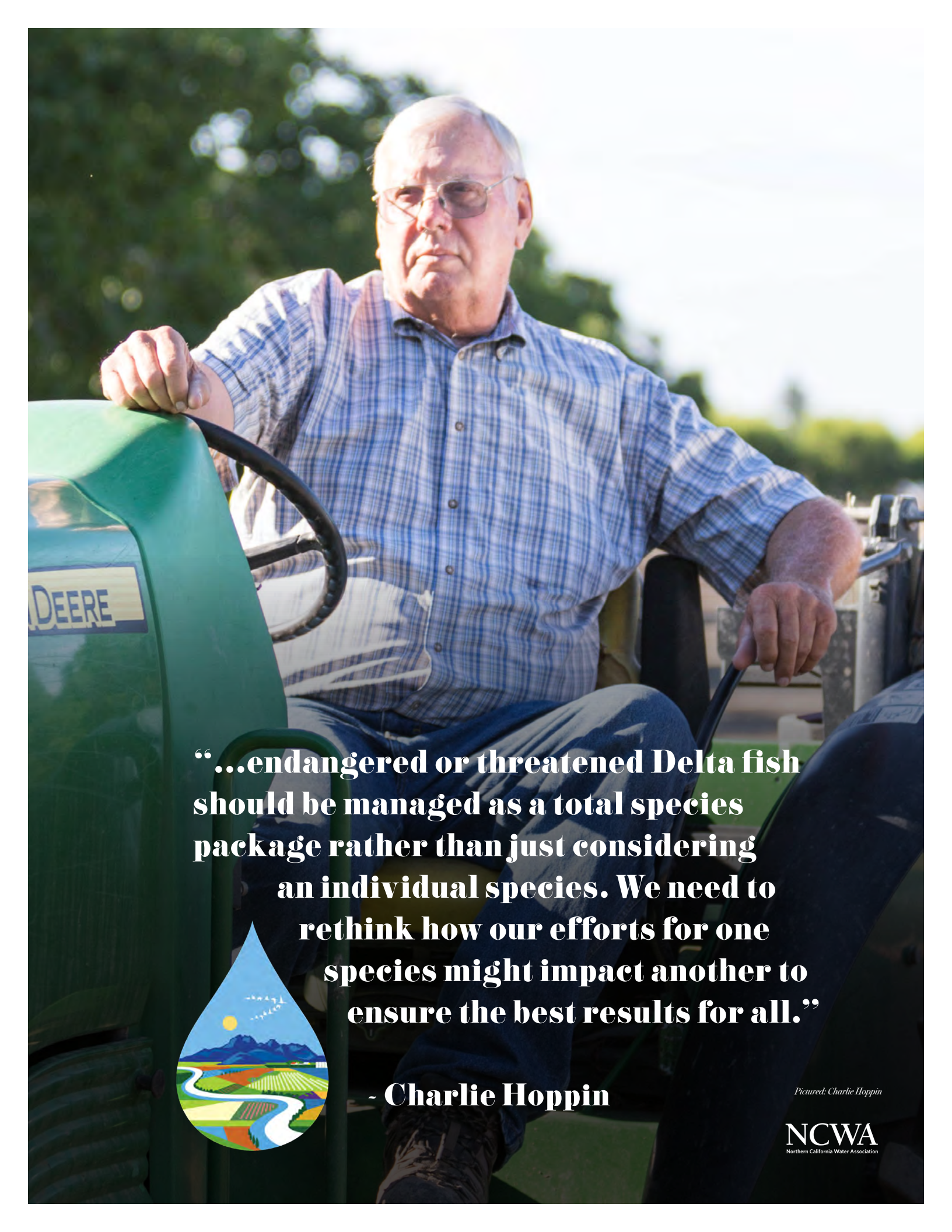
Sacramento Valley farmers and Audubon California have formed a coalition in an effort to ensure there are an adequate number of fields that also serve as habitat. Rice, alfalfa and winter wheat fields are critical for migratory and native birds.

"Farmers need specific water allocations for fields, or the fields may turn fallow. When they do, people and birds are impacted," Hertel adds. "Water, food and land are the three main ingredients that boost bird populations, and farm fields can ensure bird species continue to thrive."

Under effort, several hundred thousand acres of farm fields in Northern California are not only providing food for people, but are vital for the survival of ducks, geese and shorebirds along the Pacific Flyway year-round. Hertel continues to work to ensure these fields will remain bountiful for decades to come.

So, in what seems to be twist of fate or a maybe a bit of irony... what was once the great outdoors that watched over her – it is now Meghan Hertel that looks after the great outdoors.



A photograph of Charlie Hoppin, an older man with glasses and a blue plaid shirt, sitting on a green John Deere tractor. He is looking towards the camera with a serious expression. The background is a blurred outdoor setting with trees and a bright sky.

**“...endangered or threatened Delta fish should be managed as a total species package rather than just considering an individual species. We need to rethink how our efforts for one species might impact another to ensure the best results for all.”**



**- Charlie Hoppin**

*Pictured: Charlie Hoppin*

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## The Farmer Who Defied His Father

As thick white smoke filled the air, Charlie took a moment to soak in the moment. This former small-town farm boy was with one of the biggest action movie stars in history, who also happened to now be the governor of California. If only his father could see him now.

For most of his life, Charlie's father drove an oil truck around the Sacramento Valley making deliveries to farmers and ranchers. It is a job that the elder Hoppin would serve loyally to until the day he would retire.

Charles R. Hoppin Jr., better known Ross, lived life frugally. Taking chances was not in his nature, which is why it was a bit surprising to see him purchase land for farming. With money from the G.I. bill in hand, Ross would purchase 280 acres in the Sutter Basin. He never wanted to be a farmer but he saw it as additional income to help his family.

"My father saw many valley families who had trouble paying their monthly oil bills," said Charlie Hoppin of Hoppin Family Farms. "That really shaped his view of life in agriculture."

Dad offered to pay tuition and gas money if Charlie would attend California State University – Chico after high school. Charlie obliged, but there was always something that pulled him to farming and ranching.

"At Chico State I started working as a sheep herder. I was asked to bring my flock in to help cut down weeds on the rice checks for farmers in Sutter County and rented winter pasture in the Chico area."

Charlie would leave Chico without graduating. Not able to understand why his son had gone against the advice he had bestowed upon him; Ross nearly disowned his son. By 1983 – Charlie was \$380,000 in the hole.

"The hardest part for me is that my father died in 1992 having heard stories of how I owed money, and he never saw the turn around that I always knew would come."

With control of the family farm, Charlie "planted a seed" that would eventually change it all. Charlie was one of the first to grow seedless watermelons – making the family one of the most successful growers in the Sacramento Valley. Charlie was not only out of debt, but was now thriving.

As the farm flourished, Charlie looked to make a difference elsewhere. In 2001 he played a vital role in getting a bill passed that would provide tax relief to farmers. Building a strong coalition of water users, Charlie curated a unique understanding of the complexities each group faced. It ultimately set him up for that meeting with the governor.

It's 2006 and we're back at the Hyatt hotel with cigar smoke swirling. The question he knew was coming was bestowed upon him. Governor Arnold Schwarzenegger wanted Charlie to serve on the State Water Resources Board – a position no other farmer had held in the history of the appointed body.

"There was so much frustration in the valley by farmers who felt they did not have a voice. I was elated to serve in this role to help bring a balanced approach to water management in our state."

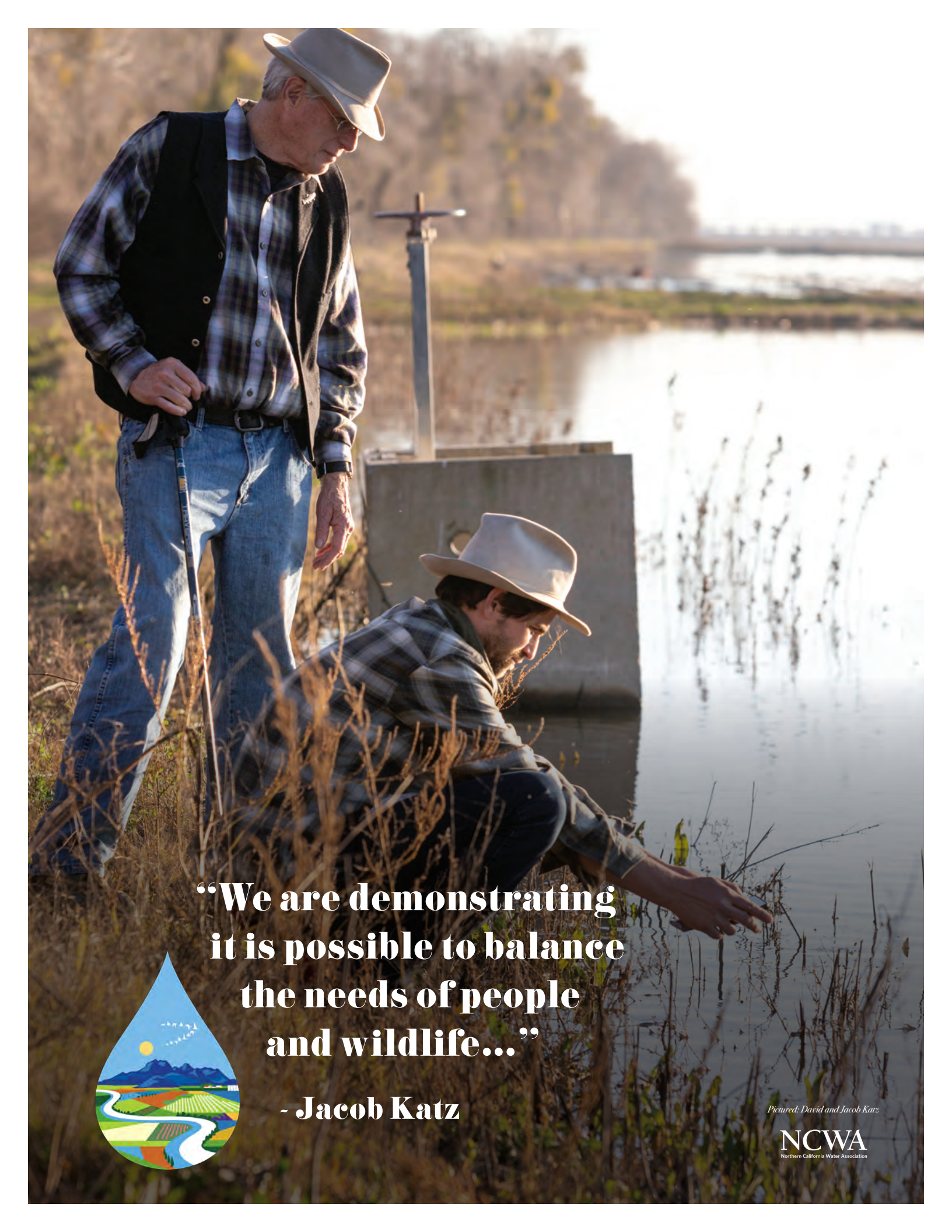
Part of the task was to reevaluate how water is allocated for farms, cities, and wildlife. One of the issues of water management continues to be the effects it has on endangered species. "I felt that endangered or threatened Delta fish should be managed as a total species package rather than just considering an individual species. We needed to rethink how our efforts for one species might impact another to ensure the best results for all."

Charlie would become the chair of the board in 2009 and held that position until his voluntary retirement in 2013.

With all that he has accomplished, the one man who so desperately wanted success for his son will never see what Charlie has become. Ross Hoppin wasn't there to witness Charlie turn his farming business around. He didn't get to see his son return to school for those final few credits to graduate, and he even missed the time Chico State recognized Charlie as a Distinguished Alumni. Charlie has surely surpassed any expectations a father could have dreamed up for his son. To be able to see the lasting impact Charlie Hoppin is leaving is something Ross never would have imagined, but it is surely something he would be extremely proud of.







**“We are demonstrating  
it is possible to balance  
the needs of people  
and wildlife...”**

**- Jacob Katz**



*Pictured: David and Jacob Katz*

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## Chasing Nigiri

From the time he was old enough to slip into a pair of waders, Jacob could be found down at the creek perfecting his fly-fishing technique. In those early days you would find the father and son fishing northern California together everywhere from Putah Creek, little Sierra lakes and the Truckee River. Many times, the fishing trip was based on a random blue dot they found on a map the night before.

“If there was a puddle, we were fishing it,” said Jacob Katz.

When not fishing with his son, David Katz, then, the President of the California Reclamation Board under Governor Jerry Brown, was busy working on new ways to help protect wildlife and vital habitats. It was there he met Huey Johnson, Governor Brown’s Secretary of Resources.

The two men formed a bond with their passion to help protect wildlife and vital habitats in the Golden State. Huey and David knew that the farms versus fish war that was underway was only going to leave both sides battered and the salmon would be left suffering in the end.

Research showed that salmon that got access onto floodplain wetlands grew much faster than their brethren that remained stuck in the river channel. But, more than 95% of the Central Valley’s floodplains were now cut off by levees built to protect cities and farms from flooding. The food was on the floodplain but the fish were stuck and starving in the leveed river channel.

“But the floodplains didn’t disappear” said David. “The land-use just changed. What used to be marsh is now rice field. If we owned some rice fields we may be able to find a way to farm in summer and provide flooded fish habitat in winter.”

Knaggs Ranch, a 1,600 acre rice farm in the Yolo Bypass along the Sacramento River – would become the perfect testing ground. David and the team still needed to prove that rice fields to act in the same way as natural wetlands for salmon.

Insert Jacob Katz. By this time Jacob was a fisheries graduate student at UC Davis Center for Watershed Sciences and looking for a research project to sink his teeth into. Jacob took on the seemingly crazy idea of rearing young salmon in flooded rice fields during the winter months as his PHD. They called it The Nigiri Project, after the popular Japanese sushi dish that features a piece of fish over rice.

“That first experiment showed that juvenile salmon who fed in the flooded rice fields grew many times faster than their counterparts in the river,” said Jacob, lead scientist with California Trout. “We have expanded the work to floodplain sites throughout the Central Valley.”

Jacob and David no longer fish as much as they’d like. But they know it is for a good cause. They now travel up and down California, working with landowners, water agencies, conservation groups and government agencies on ways to reintegrate floodplain productivity into the way farms and rivers are managed in California.

This multiple benefit model of floodplain management improves flood protection for cities and farmlands while also providing food and habitat for fish and wildlife.

“This model has global implications,” added Jacob. “By integrating a working knowledge of natural process into the management of natural resources like rivers and farm land, we are demonstrating that it is possible to balance the needs of people and wildlife, even in the middle of one of the world’s most productive agricultural landscapes.





**“When government agencies and private landowners can demonstrate how they can work together to help native species and preserve historic agricultural practices, a beautiful collaboration is born.”**



**- Maya Kepner**

*Pictured: Maya Kepner*

**NCWA**  
Northern California Water Association



## Like Father, Like Daughter

The eyes of the beast hovered slightly over the water. The seemingly unworldly reptile peered across its horizon at the little girl who sat frozen in the canoe. Only a thin sliver of aluminum separated the two. With the hot Texas sun leaving beads of sweat across her brow, Maya believed “this was it.”

Before the stare down could go on much longer, a chuckle came from the other end of the boat. Steve couldn’t help but laugh at the girl’s imagined doom. The alligator dropped back below the surface and from that day on, it was hard to convince Maya to stay home. She was happily dragged to every survey or surveillance trip Steve would take her on.

At the time Steve worked as the manager of the Laguna Atascosa National Wildlife Refuge in South Texas. Opportunities for Maya to join were aplenty but soon enough, she wasn’t just tagging along. When family moved to Northern California in the early 2000s, the father and daughter would gear up often for mornings in the wetlands.

“One of the things we loved to do together was duck hunt,” said Maya Kepner. “But it was never just about hunting, it was about spending time in the blinds, seeing the sun come up over the water, hearing the geese flap their wings across the wet fields. We’d become paralyzed watching these beautiful animals take flight overhead.”

Overhead is where Maya would soon find herself as she was routinely flying with CDFW in a helicopter tracking Tule Elk throughout California. But the thrill of the new job was about to take a nose dive. Steep budget cuts meant state agencies would begin furloughing employees every Friday. With a bit less income, she used the off days to team up with dad.

Steve had gone out on his own after retiring from Fish and Wildlife. He found joy working with Northern California landowners to create better habitat for wildlife. “My father was a great listener and he had a real knack for finding partnerships that benefitted both sides.”

Maya felt the pull and decided to team up with her father full time. One of their first major projects is still in operation today. Conaway Ranch, located between Woodland and the Sacramento River, spans 17,000 acres and has become a model for how farm lands can also serve as habitat for hawks, snakes and migrating birds. Maya and her father were able to help ensure 6,000 acres of the ranch became viable habitat for wildlife while still serving as productive farm land.

“When government agencies and private landowners can demonstrate how they can work together to help native species and preserve historic agricultural practices, a beautiful collaboration is born,” said Kepner, Managing Member of American West Conservation.

Maya, the once frightened girl in the canoe, is now the one who feels the joy of her child falling in love with the great outdoors. Just like she did with dad, Maya finds time to drag Dillion out into the fields whenever possible. Something that is never protested by the dusty blonde-haired, 5-year-old who wants nothing more than an afternoon in the mud.

And like grandpa and his mother before him, it seems almost impossible that Dillion won’t follow in their footsteps, and that -- will be to the great benefit of wildlife in California.





**“We need more biodiversity  
and we need more of  
our lands to become  
resilient to an ever-  
changing landscape”**



**Mary Kimball**

*Pictured: Mary Kimball,  
CEO of the Center for  
Land-Based Learning*

**NCWA**  
Northern California Water Association



## The Habitat Creator

Much like a pinball, he was seemingly in constant motion whizzing from one side to the other. But, instead operating inside an arcade game, George Kimball was bouncing across Northern California in old Dodge truck delivering some of the best fruits, vegetables, eggs and meats Yolo County farmers had to offer.

George was a farmer himself, but it was just the way it was done back then. In the 1970s, the small farming community was truly a community, and they all banded together to help ensure Yolo-grown products made it into the hands of their valued customers. It left a lasting impression on George's daughter, Mary. From a very young age she learned how all the pieces of the puzzle fit.

In 1998, Mary helped create the non-profit organization Center for Land-Based Learning, with its primary focus being to educate young people about sustainable agriculture and natural resource conservation through a hands-on approach. Soon the Student and Landowner Education and Watershed Stewardship program or SLEWS was born.

Mary began to solicit farmers about the possibilities of bringing high school students to their properties to assist with volunteer restoration projects. Quickly, farmers found that the plants that were installed by the SLEWS students, with mentor support and oversight, actually performed better than those installed by labor crews. The conservation community, who had experience in planting and management, was the missing piece, and together, Mary now had a perfect formula for success.

In the two decades since the SLEWS program began, high school students, farmers and conservation volunteers have planted 142 miles of riparian hedgerow habitat. That is the equivalent of driving from Sacramento to Reno. From the moment you left downtown until you pulled into the Biggest Little City in the World, accompanying you along the way would be a seemingly infinite line of native trees, grasses, shrubs, and flowering forbs all in a single row. Beyond hedgerows, they have installed buffer strips, plantings around tailwater ponds and riparian areas, erosion control projects, hundreds of thousands of feet of drip irrigation line and hundreds of bird nesting boxes.

Mary knows you don't get there without collaborative effort from farms, students and the conservation community.

"There's no shortage of opportunities, we need more biodiversity and we need more of our lands to become resilient to an ever-changing landscape."

Mary still leads the Center for Land-Based Learning as the CEO, and also sits on the Yolo County Flood Control and Water Conservation District board. It is in these roles she sees the importance of pairing solid programs with a collective mission to solve wildlife and environmental problems facing the county and beyond.

From the young girl who saw her father play a key role in the success of elevating Yolo County's farmers, it is almost harder to believe that she wouldn't have achieved what she had set out to do. Especially seeing as collaboration was the key to it all.





**“Leave the land better than you found it’ was one of those phrases we heard often when we younger.”**



**- Bryce Lundberg**

*Pictured: Bryce Lundberg*

**NCWA**  
Northern California Water Association



## A vision beyond the dust cloud

Innovators are lauded for their vision and ability to see the future – but in 1930’s Nebraska, vision was a tricky subject. Some days, Albert Lundberg could hardly make out an object three feet in front of his face. Albert didn’t need glasses – there was nothing wrong with his eyesight. A storm of earth and dust raged across prairies, farms and ranches, turning once fertile plots into barren wastelands obscuring Albert’s vision. By 1937, Albert and his wife, Frances, packed up what they owned and hit the road. Out west, the skies were clear, so the Lundbergs didn’t see many alternatives but to make their way to the Golden State. After arriving, Albert was labeled an “Oakie,” but he was from Nebraska and wasn’t too fond of that particular slur. “He hadn’t planned to come west, but it is here that he would finally find what he was looking for,” said Albert’s grandson, Bryce Lundberg, Vice President of Lundberg Family Farms.

Over tilling of the land led to one of the worst farming disasters in American history. Stretching from Texas to Nebraska, the Dust Bowl rendered 35 million acres useless and left Albert with a new sense of responsibility. Once settled in the small town of Richvale (located 18 miles south of Chico), Lundberg vowed never to repeat the mistakes of the Roaring 20s. Spanning four decades after World War II, it was common for farmers to dispose of their remaining rice straw after harvest by setting it ablaze. Plumes of smoke would blanket the sky throughout the Sacramento Valley. It was a grim reminder of the clouds of lung-choking dust that Albert endured for so many seasons before.

“‘Leave the land better than you found it’ was one of those phrases we heard often when we younger,” added Bryce. Nightmarish flashbacks of the Dust Bowl’s destruction led Albert to commit to a clearer path. Albert first tilled in the rice straw before planting winter crops. With oats and legumes in the winter, Lundberg could decompose the rice straw while rejuvenating the fields for next year’s planting season. Unfortunately, this process was not feasible for all of his fields. Thinking back to one thing families across the prairies had wished for, Albert knew water would be the answer. Joining with neighboring farmers who stopped burning, the Lundbergs discovered that a little water could go a long way. “By creating a vast shallow pond across the rice fields, grandpa discovered he could do more than just whittle down the rice straw,” said Bryce. Repeated on fields throughout the valley, rice farmers were able to clear up the skies and subsequently allow migrating birds to rediscover a floodplain that had disappeared a century ago.

“By flooding the fields, farmers across the valley floor were able to recreate a historic wetland habitat. It is astonishing today to see the way the Pacific Flyway has returned in just a few short years,” added Bryce. With food and prime habitat now plentiful for birds, the skies turned dark once again, but with millions of ducks, geese and shorebirds flying in and out of the Lundberg’s and neighboring farmers’ fields. It was truly a sight for Albert to see. The Lundbergs say it is in those years that they discovered the importance of “farming in partnership with nature.” Lundberg Rice pioneered the organic food movement, becoming the first business to produce and market a brand of organic rice in the U.S.

Bird populations soared while the family’s rice products, Lundberg Family Farms, began appearing in grocery stores throughout the county. But not all were sharing in the moment. Just a few steps from the Lundberg’s fields, a native fish population dear to the family was facing a steep population decline. “When grandpa first arrived, he found California’s Chinook salmon in great abundance, but by the early 2000s, that was no longer the case.” With spawning numbers of the salmon falling, the Lundberg family and their neighbors from the Western Canal Water District were ready to take action. “With nearly 60,000 acres of fields along Butte Creek, they all felt a responsibility to help the salmon.”

A coalition of farmers, the Metro Water District and the US Department of Interior worked together to create a siphon that would help a few hundred fish reach key spawning sites. As ambitious as the project was, they not only hit the mark – they exceeded it.

Today, some 10,000 Chinook Salmon make the journey through Butte Creek each year. It is one of the greatest success stories in California to date. While it remains a murky future for the salmon, the Lundbergs imagine a brighter future for the fish. Through collaboration and mimicking successes of the past, they believe it can be done.

While it may seem they are viewing this optimism through rose-colored glasses, this also happens to be the same family that saw through a bit of dust to create not only one of the most popular rice companies in the country but helped bring back the Pacific flyway. Sometimes, all it takes is a little vision.







Get to Know  
at least  
**ONE RIVER**

**“When we work together to find a  
common vision, we can achieve  
incredible results”**

**Amy Merrill**



*Pictured: Amy Merrill*

**NCWA**  
Northern California Water Association



## The Collaborative Steward

The rhythmic patter of hooves skimming the earth below was a sound Amy never tired of when she was young. Whether in the hot sweat-inducing summer or the bone-chill frost of winter in upstate New York, the sound was ever-present, because Amy was always riding. With 100 acres and the surrounding landscape of woods, creeks, and farm fields to explore, every grasshopper, hawk and blade of grass were familiar to the adventurous child who rode by each day.

Even so, it was the summers spent in the wilderness of Algonquin Provincial Park in Ontario, Canada that locked in Amy's love of nature for life. Days at a small all-girls 'off the grid' camp were full of canoeing, portaging, swimming, and playing in the northern woods.

This camp put her so close to nature, some days it seemed as you could actually reach out and touch the moose or beaver sharing the river. As she entered college, Amy's connection with nature was as strong as ever, but she didn't realize one could make a living helping that very thing she adored.

Before landing in Northern California, Amy served as a large animal veterinarian intern, taught high school science, went to graduate school, spent time with the Forest Service and landed a job with an environmental consulting firm. She learned valuable lessons from each of these experiences and folded them into her work in years to come.

Amy's mother, Sally, always stressed the importance of listening to both sides and the benefits of understanding and supporting your community, no matter the differences in opinion. As the Interim Director of the California Program at American Rivers, one of Amy's central goals is to work with agricultural landowners to protect and improve habitat in wetlands and rivers.

"Collaboration is key. We are finding so many ways farmers can make small tweaks to their field operations which lead to dramatic gains for wildlife."

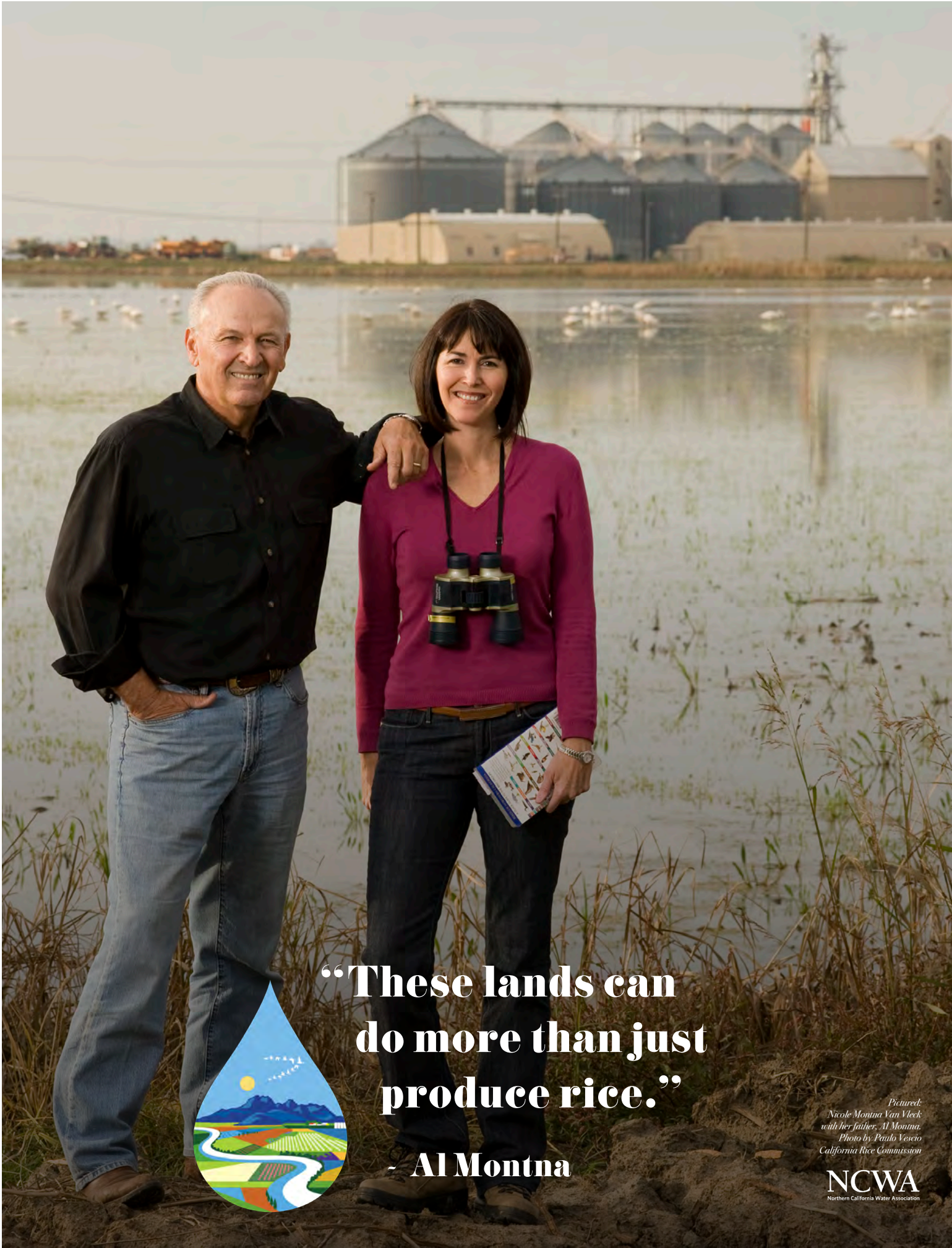
Adjusting how the land and water is used on these first few farm operations revealed that a greater benefit to people, fish and wildlife could be realized year-round. Amy worked with partners in the Central Valley Habitat Exchange to develop simple tools that can be used to help identify win-win alterations in land use and management that provide big benefits for fish and wildlife. American Rivers and others are using these tools to work with farmers and ranchers from the North State to the San Joaquin Valley.

With American Rivers, Amy is leading a group to restore stream reaches and streamside lands to provide habitat for fish and wildlife and recreational opportunities for local community members in the Central Valley. Amy's team works with farmers, ranchers, developers, state and regional parks and other land owners to find these 'sweet spots' where tweaks in land use and management provide win-wins for fish, wildlife, and people.

"When we work together with farmers, ranchers and other local interests to find a common vision, we can achieve incredible results. We can protect communities and agricultural lands from floods while providing habitat for wildlife and great recreational opportunities for people. We can have clean, cold rivers and see populations of fish increase while providing respite from the heat along shade-covered banks. This is what a sustainable landscape looks like that we Californians can all care for and be proud of."

It may seem like a long time ago that the young girl was riding her horse around the back country of upstate New York, but the love for nature is as present as ever. Amy is still new with American Rivers, but much like the impression those early years in the wilderness and farmland left on her, she hopes to leave a lasting and positive effect on the rivers, farms, and wildlands of California.





**“These lands can  
do more than just  
produce rice.”**



**- Al Montna**

*Pictured:  
Nicole Montna Van Vleck  
with her father, Al Montna.  
Photo by Paulo Yescio  
California Rice Commission*

**NCWA**  
Northern California Water Association



## **It wasn't supposed to work. But somehow, it did.**

He wasn't supposed to be able to grow anything on this plot of land, but somehow, that is exactly what Al Montna did.

It was 1967, and following in his father's footsteps, Al came back home to Northern California after college to give farming a shot. His family owned some land south of Yuba City in Dingville, but it had been leased out to a tenant farmer named Cobb Saunders after Al's father, Dutch, unexpectedly passed 10 years earlier.

Al was feeling confident and asked Cobb for a good field so he could try his hand at rice farming.

"Cobb honored my father's request by giving him the toughest field possible to turn a decent yield," said Nicole Montna Van Vleck, President and CEO of Montna Farms.

Cobb just assumed Al would fail his near impossible challenge.

But he didn't and instead, by that fall Al had long, luscious rice stalks sprouting from this unforgiving plot of earth. Cobb was left impressed.

In the decades that followed, Montna Family Farms would become a world-renowned producer of short-grain rice. But in those first few years, it was Al's medium-grain rice, known as Calrose, that was the star of the family's farm.

"These lands can do more than just produce rice," Al reckoned to family and friends.

As an avid waterfowl hunter, Al was dejected by the dismal number of birds he saw around his fields in the 1960s and 1970s. He knew that the flames kept the birds away and destroyed much of their food source.

At the time, the cheapest and fastest way to decompose of remaining rice straw stubble after harvest was to simply burn it. But the smoke did not bode well for the valley and its inhabitants.

It was the early 1980s and Montna began seeking partners to help in the crusade to create better habitat for birds. A few neighboring farmers signed on as did the bird-loving Ducks Unlimited and they discovered the benefits to flooding the rice fields instead of burning them.

Through this effort, the family had helped to create the first ever wildlife-friendly farmland in California. By the 2000s, Al no longer saw a handful of birds. He saw millions return to the valley each year.

A big reason for that is the food. Two-thirds of what these birds will need during the colder months can be found on farms like the Montna's.

Today, Al's daughters Nicole and Michele now lead the family to think even bigger when it comes to conservation. California's chinook salmon are struggling to survive as their population numbers are dwindling at an alarming rate.

In a place where you weren't supposed to grow much, Al found a way to grow rice and provide a home for birds. Now, those same fields, under his daughters' care, are helping fish on their journey to the Pacific Ocean.

"This display is quite dazzling. With a single scoop of water in a rice field, you will find thousands of tiny bugs darting to and fro."

Just with the water for the birds, this food for the fish could mean the difference between saving the salmon or not.

And as you've heard before. It isn't really supposed to work. But somehow, it just might.





RIVER PARTNERS

**“If we can demonstrate strong collaboration and show the results of successful projects, we can enact change across the entire state.”**



**Julie Rentner**

*Pictured: Julie Rentner*

**NCWA**  
Northern California Water Association



## Bringing Laulima to the Rivers

Growing up, Julie Rentner watched the vast rolling hills north of Mt. Diablo in the heart of the Bay Area get gobbled up by tract homes and paved streets. Her favorite playground along Marsh Creek felt like it disappeared overnight. Her parents saw the hurt in their daughter's eyes, and offered a bit of hope that would drive young Julie for the rest of her life.

"Your work can change things," they told her.

That mantra first took her to U.C. Berkeley where she studied forest resources and then onto the University of Hawaii for graduate school. While in the Rainbow State, Julie studied how erosion and sediment coming off the pineapple fields on Oahu's famed North Shore was leading to the bleaching and destruction of coral reefs, and generating a lot of conflict for tourism and growers.

"We were able to reduce the negative impacts from soil erosion by working with the farmers on cover-crop-runoff solutions," said Rentner.

There's a popular term in Hawaiian culture, Ahupua'a ('ahoo-poo-ah-ah'), which means a subdivision of land from the mountains to the shore. In the 1200s, Polynesian people began to intensify their agricultural practices. In doing so, they came to understand the land and water spanning from the mountaintop to the ocean was interconnected. If you alter one, you could have devastating impacts on the fish, birds, plants and water downstream. Through data and empathy, Julie found ways to work with the Hawaiian farms to make workable changes for the greater good.

Today, she is leveraging that same mindset in her role as president of River Partners. The 20-year-old nonprofit organization brings life back to river landscapes by restoring native ecosystems along some of the most imperiled river corridors in California, including thousands of acres in Northern California.

One of her current undertakings lies northwest of the Sutter Buttes, known as Willow Bend. The site is a crescent moon-shaped parcel that hugs the east bank of the Sacramento River. For years farmers had a tough time turning a profit on the land because of unpredictable flooding. While bad for agriculture, River Partners found this to be perfect for growing young salmon. While there on the floodplain, the fish are able to feast on millions of tiny zooplankton and other insects, growing stronger for their journey downstream to the ocean.

"If we can articulate exactly what flow rate we want when we want it, paired with proper drainage back into the river, then we create a bountiful feeding ground for endangered Chinook salmon."

Willow Bend not only serves as a feeding site for fish, but also makes for great waterfowl habitat. Julie believes the space between the river and agricultural lands is a place where we can work to create a new water system that benefits people and wildlife. She views this as a Laulima mentality, which translates from Hawaiian to mean bringing many hands together.

"I'm very optimistic how more and more people are working together to solve our water issues. If we can demonstrate strong collaboration and show the results of successful projects, we can enact change across the entire state."





**“Collaboration is  
the key to future  
success”**

**- Ted Sommer**

*Ted Sommer stands above the  
Yolo Bypass—a site where  
he and his team studied and  
engineered solutions to fight a  
decline in salmon populations.*

**NCWA**  
Northern California Water Association



## **A sailor, a scientist and a squall.**

Since as early as he can remember, Ted had always been drawn to the ocean. As a boy, he idolized Jacques Cousteau. A desire to understand the mighty sea burned within him through childhood, adolescence and on to his first year of college, where he would find himself at the docks of his maiden voyage out to sea. “Marine biology was all I ever wanted to do, and this was going to be the first of many voyages out to the Pacific Ocean...” Ted recalls, “...or so I thought.” Just as the vessel cleared the channel, a relentless volley of waves, twenty feet tall began to batter the ship, twisting and tossing the craft into directions that baffled even the young scientists. Ted and many of his fellow classmates were now doing everything they could to keep their lunch. As Ted’s knuckles turned white from grasping the railing, he began to re-evaluate his aquatic dreams. “I wanted to work on projects that mattered, but I realized on that day that the ocean wasn’t my destination.”

At that time, Farmers in the state of Louisiana had been perfecting what was known as *rice-crawfish double cropping*; a form of aquaculture devised to produce food for humans, independent of supply from earth’s oceans. “As I was driving around the valley I was seeing all of these rice fields and I thought to myself ‘we could do more here’...we could use these fields for several purposes,” said Sommer. Clean air advocates had been fighting to ban what was once a common practice of burning rice fields in preparation for the next year’s planting season. Ted proposed a multi-pronged solution; by flooding the fields rather than burning them, farmers could clear the crop remains, cut back on smoke pollution, and simultaneously improve aquatic animal habitats.

Ted’s solution proved spot on - burning was eventually banned and over time, flooded rice fields became a refuge for shorebirds, ducks and geese. In the decades since, Bird populations have soared. “One of my roles is to try and to figure how the system works and how to make it better.” says Sommer, who now serves as the lead scientist at the California Department of Water Resources.

While bird populations thrived, Ted and his colleagues faced another wildlife crisis as several native fish populations began disappearing from the rivers. When they discovered that these fish populations surged during wetter years, Ted and his team set out to discover why. They studied the Yolo Bypass, a floodplain near Sacramento that also serves as a wetland habitat. Six years later, they reached an illuminating diagnosis - small insects and plankton are most plentiful in shallow waters. A healthy population of these tiny invertebrates offers a vital source of nutrition for young, developing salmon. With more food available, the young fish grow larger and more agile, more able to ward off predators and more likely to succeed in their voyage out to sea.

“The flooding of Yolo Byass was first thought by many to be a death trap for young fish. We uncovered that the floodplain served as a massive nursery and food bank, we just needed to create access. If we can prolong the time that fish remain on the floodplains, we will dramatically increase their chances of reaching the sea.”

With support from the Department of Water Resources, Ted has teamed up with Sacramento Valley farmers, reclamation districts, agencies, and universities to create projects that allow for more direct flows into the Yolo Bypass. If successful, this coalition of farmers can replicate rainy seasons even in times of drought. By managing direct water flows to the Yolo Bypass through the Colusa drain and the Wallace Weir, more food can be delivered to the fish. “We have 20 years of data that shows when there’s food and habitat, the fish thrive. Even in dry years, managed flooding can have a big influence on our ability to save these endangered species.”

While the outlook for fish populations may appear grim, Ted finds himself hopeful, borrowing a quote from Jacques Cousteau - “If we were logical, the future would be bleak, indeed. But we are more than logical. We are human beings, and we have faith, and we have hope, and we can work.”

“Collaboration is the key to future success. We’ve already partnered with Reclamation District 108 and the Glen Colusa Irrigation District to ensure deliveries will continue even when we see very little rain and snow. I’m hopeful that more projects like these will turn the current projections around.”

Ted Sommer now serves in one of the most important positions a scientist can serve in the state of California – and he may just be one of the most influential people helping native fish today. It could be argued that Ted may have had a similar impact on the ocean if it hadn’t sent him back to shore, battered and queasy, but one thing is for sure - California’s endangered fish will be happy it did.







**“The approach from farmers and ranchers in the Sacramento Valley is positive, inclusive, and usually lends to the best result as so many different interest groups are involved in water issues.”**



**- Jeff Volberg**

*Pictured: Jeff Volberg, Director of Water Law and Policy, California Waterfowl Association*

**NCWA**  
Northern California Water Association



## Dreams of a Cowboy

Even as he dreamt of herding cattle on ranch lands in Northern California, a body of water was ever present in that cowboy fantasy. Whether a pristine lake or a rippling river, the youngster was always drawn to the beauty these waterways imposed on the landscape. Some 60 years later part of that dream was no longer a mere object in the background, yet has taken center stage.

As a UC Davis student in the 1970s Jeff Volberg studied agricultural business management in hopes of making a career on the farm fields and ranches that dotted the West. But after four years of working on remote ranches in Northern California and Nevada that dream started to fade. It was a lonely life, with no prospect of a long-term home and family. A more conservative approach to a career took form, and the onetime wrangler no longer wore blue jeans and boots, but now suits and ties.

Landing a job in farm finance, Jeff soon became astutely aware of how much water played a role in a rancher's or farmer's livelihood. By the time he was in his early thirties, Volberg was attending law school at night and a sharper focus on water law and regulations came into view.

After working with Southern California grapefruit farmer Dave Kelly, then to serving as a consultant to the State Assembly Water, Parks & Wildlife Committee and finally as the Government Relations Manager for the San Diego County Water Authority, Jeff was ready to move on from water issues and set off into retirement. That ride would have to wait. The California Waterfowl Association would come calling

Volberg became the non-profit's first Water Law and Policy director. The new role has Jeff working on behalf of duck and geese populations to ensure they have adequate habitat to feed, raise their young and rest during migration to and from the southern and northern hemispheres.

"This is the most rewarding job I have ever had. There are so many great people working because it is their passion, they are not here for the money."


Pulling on his work of the past, Volberg is combining collaboration and his expertise in water policy to preserve and create suitable wetlands. Which means not only working with federal and state protected lands, but now farmers who can help aid in providing habitat during the fall and winter months – a critical time for migrating birds.

In the Sacramento Valley that means working to advance water projects and funding to help keep populations at healthy levels. In the Yolo Bypass, Volberg is collaborating with landowners, NCWA and state agencies to ensure habitat remains suitable for birds accustomed to finding refuge in the low-lying wetlands. In years past, issues like this may have been contentious, but Volberg says its uplifting to operate in this new climate.

"Rather than retreating into the respective corners and blaming government for their woes, it is great to see a large consortium work together to find solutions. The approach from farmers and ranchers in the Sacramento Valley is positive, inclusive, and usually lends to the best result as so many different interest groups are involved in water issues."

While he never became the cowboy he once dreamed to be, Jeff has found his path may serve a greater purpose. For while he may have overseen a few thousand cattle had he become a cowboy, today as a conservationist, he gets to help millions of waterfowl each and every year.



A woman with short, curly brown hair, wearing a purple t-shirt and blue jeans, is smiling and looking towards the right. She is working on a red tractor, with her hands on a component. In the background, there is a white pickup truck and some green machinery. The scene is outdoors, likely on a farm.

**“There were those  
who said we’d have  
to choose farmers  
over conservation  
or vice versa.”**

**- Mary Wells**



*Pictured: Mary Wells*

**NCWA**  
Northern California Water Association



## **“No” is not good enough.**

Girls were not allowed.

Agricultural-Science was a class for boys who would one day become farmers or ranchers. School-age girls were to take home economics so they could learn to cook and clean.

But, Mary didn't accept a 'no' as easily as others. Especially after her father fell ill when before she entered kindergarten.

A man just 30 years old, Mary's father, Daryl, was stricken with a debilitating autoimmune disorder, Rheumatoid Arthritis, that attacked his joints, leaving his hands and legs nearly useless.

The family had a 300 head cow-calf operation in the heart of California's Central Valley, but with no one to lead the way, the operation was sold to pay the bills. But that did not mean the work was over, the ranches needed to be irrigated and maintained while the tenants' cattle grazed and were rotated from field to field. Mary got to work.

Life didn't get easier. In the 1950s and 60s, Future Farmers of America did not allow girls into their program, but that does not mean she wasn't expected to carry a project and complete records like everyone else. Despite pushing her way into the Ag-Science course and being a Merced County's 4-H All Star, she was told to stand outside when the FFA portion began. You'd think that would have diverted Mary into a different career. It didn't.

After earning her degree in agricultural from California Polytechnic State University in San Luis Obispo, Mary landed work with water districts in the Williams area – where her grandfather had left her land. One of her big challenges was to balance the Bureau of Reclamation's Management and Conservation Plan with the needs and practices of the farms in the district.

“There were those who said we'd have to choose farmers over conservation or vice versa.”

Like many of the other choices Mary was presented with in her life, she didn't take that offer. Mary advocated that the Maxwell Irrigation District participate in an innovative fish food program during the summer that directs water through a wetland and tidal slough corridor of the Sacramento River system and into the Delta.

Why? To help feed endangered fish downstream.

Results were instantly positive. The program showed that the nutrient-rich “pulse flow” successfully generated a phytoplankton boom and enhanced zooplankton growth which greatly aided the Delta smelt and their egg production. It is one example of many where Mary took the more difficult path in hopes of finding a positive and impactful result for the greater good.

Because of her tenacity, Mary is one of the most respected water managers and policy leaders in Northern California.

“I look back now, and I think how my father's illness and death prepared me for the rest of my life.

It helped shape the attitude I had with each challenge I faced and continue to face.”

These days, the no's are a little less frequent, because as most understand by now, Mary is likely going to find a way to do it anyway.

