

Rancher, Farmer, Fisherman

CONSERVATION HEROES OF THE AMERICAN HEARTLAND

by Judy Stoeven Davies

Out on America's vast working landscapes—the ranches of the Mountain West, the farmlands of the Great Plains, the waters of the Mississippi Delta and Gulf of Mexico—a quiet revolution is under way. Tens of thousands of unsung conservationists are leading some of the most important work in the nation to



Best-selling author Miriam Horn has a new book out: *Rancher, Farmer, Fisherman*.

restore America's grasslands, soils, rivers, wetlands and fisheries.

These men and women do not necessarily think of themselves as environmentalists. What drives them is their deep love of the land—the iconic terrain where explorers and cowboys, pioneers and riverboat captains forged the American identity. They feel a moral responsibility to preserve that heritage—and to ensure that their families and communities can rely on the natural wealth of the land for generations to come.

These trailblazers face complex new challenges on a landscape made increasingly vulnerable by overgrazing, depleted soils, invasive species, overfishing, ill-conceived feats of engineering and extreme weather. But their deep connection to the land—and their direct observations about what is happening to it—lead them to experiment and find groundbreaking ways to restore the mutually sustaining relationship between man, wildlife and the land.

During her 12 years at Environmental Defense Fund (EDF), Miriam Horn heard many stories from her colleagues about the passion and courage of the people they work with on America's working landscapes. In her newly released book, *Rancher, Farmer, Fisherman*, she takes us on a journey down the vast watershed of the Mississippi River to meet practitioners of this stewardship movement:

a Montana rancher, a Kansas farmer, a Mississippi river man, a Louisiana shrimper and a Gulf fisherman.

A Discovery Channel documentary based on the book will air in summer 2017.

Miriam, you spent three years traveling the Mississippi and writing this book. What's it about?

It's about conservation heroes of the American heartland who defy almost every modern stereotype of what a conservationist is. They are deeply traditional and they harvest natural resources at commercial scale. What their stories reveal is the shallowness of the stereotype. Conservation has been a core American value since our founding, tied to values these heroes remain committed to, like self-sufficiency, faith, responsibility to family, community, heritage. Many of them have deep roots in the landscape, where their families have lived for generations. They understand fully how interdependent we all are with the rest of nature—and



are doing some of the most consequential work in the nation to protect the ecosystems they live within.

These men and women are humble before nature's genius, majesty and power. They see the damage done by our efforts to dominate nature. Nature can do so many things we can't do, often more cheaply and effectively and with much greater flexibility.

None of these heroes is paralyzed by fear. They just get out there and step up to do the work. And they're not outliers: I went to an agricultural conference in a packed gigantic auditorium in central Kansas. Fifteen hundred farmers from all over the Midwest, straight out of a John Deere commercial—baseball cap, overalls and weathered faces. They were asking heartfelt questions about how to farm in ways that protect soil ecology, increase biodiversity and hold carbon and nitrogen, while making their land more resilient to climate change. Seeing their willingness to look to new ways to farm made me really hopeful. It blew me away.

What do their stories tell us about America?

I wrote this book to challenge several pervasive and powerful myths about the heartland. First, that in these traditional, deep-red states, “real Americans”—the ones who run tractors and barges and fishing boats, who go to church and town hall meetings—are hostile to environmental values. And that producing food at “industrial scale” is inherently destructive to nature.

I also wanted to refute the myth that America is irretrievably broken, trapped in ever-more-hostile warring political camps. Western ranchers are often the staunchest defenders of federal land protections for grizzlies and wolves. Big Midwest commodity-crop growers can be our most sustainable farmers. Commercial fishermen are the best hope we have for protecting fisheries and coastal ecosystems.

All of these people not only believe in American democracy but are making it work, talking openly and civilly with people very different from themselves to find the best ways to move forward together. Underneath it all is a deep strain of patriotism, what Ronald Reagan called the conservative obligation to conserve “our patrimony.” These families are the caretakers of the landscapes that define our national identity: The mountain majesties, fruited plains and shining seas.

They also have that strong sense of community that was part of the settling of the West. All expressed a powerful sense that you need to go help your neighbors when they need you. And they also understand that the choices they make have an impact on the watershed and the nation—even the world.

That's what's out there in the heartland. But you wouldn't know it by listening to Capitol Hill and the media.

Tell us about your journey down the Mississippi.

The Mississippi is the third-largest river on the planet (behind only the Amazon and the Congo). I started in the Northern Rockies on the banks of the Teton River, a tributary of the Missouri which flows into the Mississippi, where I got to know a Montana cowboy named Dusty Crary.

Dusty runs several hundred head of cattle on several thousand acres with his mom, wife and three kids. The Crary land is part of 10 million acres of public lands and vast private ranches left largely untouched. It still has all the animals that were there when Lewis and Clark came through: wolves, grizzlies, wolverines, mountain lions and lynx. When I went out with Dusty in the spring to watch calves being born, eagles swooped down to grab the placenta.

What is Dusty doing to conserve that area?

Magnificent ranches like Dusty's are threatened by development. Every year, many are converted to cropland, split into ranchettes, or torn up by oil and gas drilling. But these private lands, which typically sit on fertile river bottoms, are vital to wildlife. Elk, deer and pronghorn depend on them for food and shelter in the winter and to have their babies in spring. This part of Montana is the only place in America outside of Alaska



Rancher Dusty Crary's frontier forebears were part of the Wild West. They bootlegged and trapped coyotes to get by.

where grizzlies still come down out of the mountains onto the prairie. And many of the ranches sit next to protected public lands—providing vital connectivity across large landscapes so animals can roam to find food, water and mates.

Dusty loves living alongside those animals and feels a moral responsibility to protect their home. He's also committed to honoring a heritage that reaches back four generations—a heritage he hopes his kids will carry on. After seeing the sprawl that had overtaken places like Denver, he put the family ranch into a “conservation easement,” meaning he sold the development rights to a land trust so it could never be broken up. He faced outright animosity from some neighbors, who accused him of being in bed with environmentalists—and of selling off his kids' birthright. But he also won many of them over, and helped get several hundred thousand additional acres of private ranchland into permanent protection.

Dusty then set to work protecting the rugged public wildlands he looks up at from his ranch, and where he has spent half his life hunting and packing with mules. Day after day, for the better part of a decade, he spent hours around kitchen tables with an improbable band of longtime enemies—cattlemen, fishermen, federal land managers, outfitters, hikers, hunters and environmentalists—trying to figure out how to preserve the 400,000 acres of U.S. Forest Service land that sits between the now-protected private ranches and the Bob Marshall Wilderness.

He and his neighbors drafted a piece of federal legislation that would allow families to continue the work they've always done on the land, but block new uses that would alter its historic character. Dusty made several trips to Washington, D.C., and testified before Congress. Finally all the years of listening and building support paid off. In 2014, Congress passed the Rocky Mountain Front Heritage Act.

Next, you traveled down the watershed to the prairie. What did you find there?

Out on the Great Plains, America's grain belt, I met Justin Knopf, a Kansas farmer who is a creationist Christian and deeply believes in taking care of God's garden. He farms 4,500 acres of wheat, soy, sorghum and alfalfa with his father and brother on land his mother's family homesteaded right after the Civil War.

I went out with him on a combine for two days one June to harvest winter wheat. When they're harvesting, they can't stop. It's one of the many times during the year that they're completely vulnerable to natural forces. Three minutes of hail can wipe out an entire year's work. So we rode together from 6 am to 2 am. I was amazed by the technology he uses. Streams of real-time data come over his combine's computer, and more over his smart phone, telling him the soil type at every depth; what he's done to

each square foot of the field for the last 10 or 15 years; the nutrients the crop needs; ambient temperature and weather forecasts.

I also saw how attentively he watches every second as he moves through the field. He climbs down often to dig into the soil and touch and smell the wheat. His intimacy with the soil and crops—the watching and level of attention—his wife likens it to the care he gave their babies.

Does all that scientific information give him an edge his ancestors didn't have?

Drought and deep plowing were primary causes of the 1930s Dust Bowl that forced tens of thousands of families to abandon their farms. While studying at Kansas State University, Justin came to understand that the way his family had been farming for generations had left their soils depleted of both organic matter and biodiversity. A teaspoon of soil contains thousands of species of microbes—trillions of organisms—which hold the soil together, hold carbon in place, deliver nutrients to crops and keep the soil permeable to water. If those microbes are kept healthy, and the soil isn't ripped up by a plow, it can catch and hold the scant rain that falls on the Plains.

Justin persuaded his family that they needed to farm in a way that mimics the prairie: giving up tillage and re-introducing biodiversity, through crop rotations and planting cover crops.



Farmer Justin Knopf constantly looks to science and new farming methods to improve his land. He believes he is part of a continuum—and that his children will be better farmers than he is.

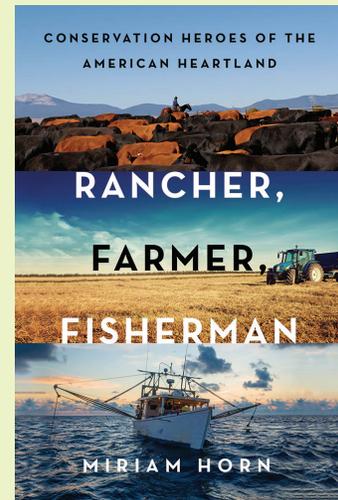
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By Miriam Horn

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Chapter 2: Farmer

By eight, the men are back at work, long shadows now falling across the amber fields, the sky turning lavender, a pheasant flushing as dusk falls. In all directions a gently swelling ocean of farmland stretches to the horizon, broken only by the hulk of 300-foot concrete grain elevators, “the giants of the plains.” Looking across this bountiful vastness, it is not hard to understand why America’s anthems all sing of these landscapes, so overwhelming in their beauty and promise. And why everyone who can has come to help with harvest: Lindsey’s parents from Kansas City, Grady’s dad and little sister to ride along in the cab of the grain wagon as he ferries his golden cargo. And why Justin, who’s been running farm equipment since he was eight years old, can’t imagine any place he’d rather be. “I appreciate the long day, the ability to see the sun rise and set, the opportunity to observe Creation. When I can’t see the horizon, I feel closed in. The prairie is comforting to me.”



What does that involve?

Justin never plows his fields. He cuts the wheat very high up the stalk and leaves those stalks and other residues in place to cool the soil and protect it from pounding rains and the powerfully erosive winds that created the black clouds of the Dust Bowl. Those residues shelter birds and other wildlife—and restore the soil to health.

Does that make his crops more resilient?

Yes. He’s increased his yields even in the face of increasingly intense heat, unseasonal blizzards and unprecedented dry periods followed by deluges.

And he continually experiments, working with Kansas State and advanced soil labs, which measure the progress he’s making to restore organic matter and microbial diversity to the soil.

All the conservation heroes in my book have that in common: they are committed to continually learning more and doing better.

How is Justin protecting the Mississippi watershed?

There isn't a perfect way to farm. Everything has trade-offs. Most organic farmers, for instance, avoid using weed-killing chemicals by plowing, but that comes with its own cost: damage to the soil structure and microbial ecology. Justin takes very seriously weighing all those trade-offs—thinking in the biggest way possible.

He rotates crops and plants cover crops to discourage pests and weeds—and when he does use chemicals, he uses data from his fields to apply only as much fertilizer as is needed, so it is not lost into the atmosphere (nitrous oxide is an incredibly powerful greenhouse gas) or waterways, where it creates algae blooms, which smother sea life in the Gulf of Mexico.

Justin understands that what he does on his farm affects water quality downstream and therefore the fishermen in the Gulf. He thinks about that all the time. That's one

The Mighty Mississippi River

Beginning in the mid-19th century, the U.S. Army Corps of Engineers began to build ever-higher levees along the Mississippi River to prevent periodic flooding in the heartland. Those barriers secured cities and navigation but at great cost: severing the tie between the life-giving river and the Delta it had spent thousands of years building. Starved of river sediments, 2000 square miles of Louisiana's wetlands disappeared, jeopardizing the wildlife and birds they support and the most productive fisheries in the world—and, at the same time, endangering critical oil and gas infrastructure and the coastal cities the wetlands once buffered from storm surges.

In the 1970s, EDF attorney Jim Tripp helped launch an effort to save the coastline and wetlands. After Hurricane Katrina devastated New Orleans in 2005, that effort coalesced into the most ambitious environmental restoration project in history. Louisiana's Coastal Master Plan won support from everyone from oil and gas companies and former Republican Governor Bobby Jindal to EDF and other leading environmental NGOs. It is designed to rebuild wetlands by releasing the river through controlled "diversions" to again nourish its estuaries with fertile sediments.

In 2010, when the BP oil disaster dealt the coast and fisheries another unprecedented blow, EDF worked to get bipartisan support for the RESTORE Act, which will channel \$8 billion in BP fines to fund that coastal restoration. EDF also launched Changing Course, a design competition that brought engineers and planners from around the world to think even longer term about how to maximize the river's natural power to build land while keeping these critical ports, industries and communities thriving.

of the reasons working my way down the Mississippi watershed was so appealing. It brought home the fact that every decision these heroes make has long-lasting and far-reaching implications.

You ended your journey in the Gulf of Mexico, with a commercial fisherman. Why is he one of your heroes?

Wayne Werner had seen the worst of what bad regulations can do. He watched fish populations and dock prices plummet—and urged his sons to find a different livelihood. But he also stepped up to change the system, spending 30 years tangling with fisheries regulators to bring back the red snapper and keep his and his buddies’ small businesses afloat. He was one of the first fishermen to join EDF in our effort to

The River Man

Merritt Lane runs one of the world’s premier shipping companies, founded by his grandfather in the depths of the Depression and now grown to more than a thousand vessels. The New Orleans–based company moves barges carrying chemicals and fossil fuels up and down the Mississippi and its tributaries, and oil rigs into the Gulf and through the Panama Canal.

Hurricane Katrina brought home to Merritt the vulnerability of his business and his community to intensifying storms and sea-level rise. Recognizing the need for natural buffers, he has become an important champion of coastal restoration in Louisiana. He represents the navigation industry on the leadership team that developed and continues to refine the Louisiana Master Plan to restore the coast without disrupting economic activity. He was also elected to represent his peers in Washington.

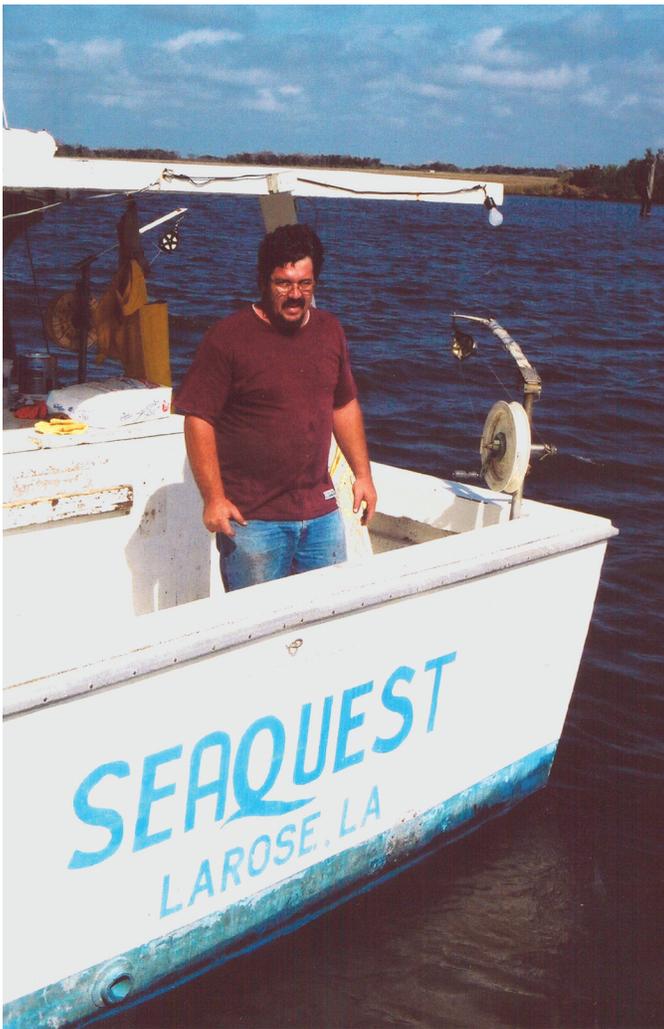
Merritt joined the coastal planning effort reluctantly, having often been frustrated in his dealings with environmentalists. He told Miriam, “The issue I often have with the environmentalist conversation is that it doesn’t complete the sentence. It’s just ‘Stop doing this.’ OK . . . and then what? If you shut us down, either the stuff doesn’t move and you cripple the economy, or you shift it onto trucks, which are far worse for the environment.”



implement “catch shares,” a market-based strategy to sustainably manage fish by giving fishermen a long-term financial stake in the fishery’s recovery.

EDF has worked with most of your heroes. What do their stories tell you about the way we work?

Wayne is a great example. With a lot of misinformation circulating about catch shares, Wayne had been dead set against them. But then he was invited to speak at a conference at Tulane University. After his speech, he was approached by two people from EDF—marine biologist Pam Baker and economist Pete Emerson—who said “Look,



Wayne Werner was once lost at sea with his crew during a storm, forced to go out in dangerous weather to catch as many fish as possible during a brief commercial fishing season. With catch shares, he now fishes safely and sustainably all year long.

least half the year. Eventually, Wayne and his buddies began speaking out at Fishery Council meetings and traveling with EDF to Capitol Hill. In 2007, they finally won a catch share management plan for red snapper. And in the decade since, both fish and fishermen have enjoyed a remarkable rebound.

we know you’re opposed to this catch share idea. But it’s really worked for fishermen elsewhere. And we’d like the chance to understand what worries you and see if there are ways to address those concerns.”

They listened carefully, understanding that a seasoned fisherman knew a lot more about the day-to-day experience on the water than they did. He told them he was worried that rich guys or big companies would come in and buy up all the fishing shares—and drive little guys like him out of business.

Pam and Pete helped him and a few other fishermen see that they could use their extensive knowledge to help write the rules, designing into the catch share things like limits on how many shares any one business could own—or requirements that the shareholder be on the water at

Shrimper

Sandy Nguyen came to the Louisiana bayou after fleeing Vietnam with her family in the 1970s. Her father had fished in the Mekong Delta, the mouth of another of the world's great rivers. She now fights to rescue the estuaries that harbor the shrimp, oysters and crabs her community relies on.

Most are refugees from the wars in Vietnam and Cambodia. Having survived perilous journeys in tiny boats across the South China Sea, they have been flattened, over and over again in Louisiana, by hurricanes, the ongoing loss of the land beneath their fishing villages and the BP spill. They now



fear the changes that the Coastal Restoration Plan will bring. Sandy is their champion, making sure their voices are heard. She told Miriam, “If you seriously talk with people, both to those who want to help and those who need the help, we’re all humans; there’s got to be ways to figure it out.”

What do all these heroes have in common?

All are courageous and passionate, with a strong work ethic and strong family ties across generations. They’re willing to stand up for change, sometimes at great personal risk—with their family’s livelihood on the line. But they have no dogma or party line. Each choice is deeply considered, based on their own generations of experience and everything they can learn from others. And they’re constantly learning, rethinking their positions, remaining open to any question or challenge to their thinking. They don’t have a trace of sanctimony, which may be what I love best about them. They’re respectful, always, of what other people bring and their different ways of seeing the world.

You co-authored *Earth the Sequel* with EDF president Fred Krupp about the race to reinvent energy. This is a very different kind of book. What made you decide to write it?

Since I was a little girl, I’ve spent lots of time on a family farm owned by dear friends in the Central Valley in California. Like Justin, my adopted farm family farms close to

5,000 acres—land passed down through several generations. And like Justin, they are deeply concerned with stewardship of the land. I fell in love with them and with farming—the hands-on challenges and problem solving—and the amazing conversations around their dinner table.

In my 20s, I worked for the Forest Service in Colorado on a landscape very much like the one where Dusty lives and works. I saw that ranchers and foresters brought an intimate knowledge and deep love and respect for the landscape. I learned about the complexities of timber management and that chainsaws aren't always bad.

Those experiences deepened my respect for people who actually live and work on this land, and have for generations. They have more at stake, a more seasoned love for it, than anybody.

You and your daughter go to the cabin you built in Colorado every summer. What do you hope she gets from that experience?

She's a New York City kid and sometimes we struggle because I want her to be outside enjoying nature more. Dusty says it best—we're part of all of it: the sky and wind and forest and wild animals. This is our habitat. We cannot lose sight of that. If our kids, on their electronic devices, become so disconnected that they can't possibly feel love for nature, will they take care of it?

Traveling for this book reminded me of our amazing good fortune as Americans, given such a varied, beautiful, bountiful country. Everyone in this book voices deep gratitude for that gift—a strong spiritual connection to the landscapes we celebrate in our national anthems, which they work every day to nurture and protect. I hope others will be inspired to follow in their footsteps.



Author Miriam Horn with her daughter Francesca Sabel near the Continental Divide and the headwaters of the Colorado River.

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