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Franklin D. Roosevelt ("FDR") noted, "The nation that destroys its soil, destroys itself."[1] This Article is a historical discussion of our nation's efforts to reduce soil erosion and promote soil conservation, agriculture's most fundamental resource challenge. The discussion unfolds against a backdrop of today's growing interest in promoting soil health as one way to address climate change. This Article examines how the early soil conservation movement served as the galvanizing political force in developing federal agricultural policy from the mid-1930s to the late 1950s. Widespread recognition of the need for soil conservation was prompted by creating a national system of local soil and water conservation districts and expanding federal programs to provide cost-sharing for farmer implementation of conservation practices. This Article explains how by the late 1950s, a series of forces—including the Cold War, growth in agricultural exports, and improved cropping technologies—combined to begin creating our current Midwestern farming system of monoculture commodity production, especially of corn and soybeans.

Today, most farms have abandoned diversified cropping practices using natural systems to address risk and instead rely on intensive agro-chemical methods and crop specialization, undergirded by publicly subsidized crop insurance and federal farm payments to reduce risks.[2] Through the 1960s and 1970s, these trends contributed to a waning of our commitment to soil conservation and led to extensive soil erosion and land abuse. These trends were partially addressed by the landmark Conservation Title of the 1985 Farm Bill and creation of the long-term Conservation Reserve Program ("CRP"), plus new protections for fragile lands such as sodbuster for grasslands and swamp buster for wetlands.[3] The 1985 law also required conservation practices on the ninety million acres of highly erodible land already in production. These provisions were revolutionary and helped re-energize efforts of the United States Department of Agriculture's ("USDA") Natural Resource Conservation Service ("NRCS") and its staff. But thirty-five years have passed since these conservation innovations began, and it is clear the agricultural community's attention and concern for traditional soil conservation issues has diminished. This is evidenced by continued levels of soil loss at unsustainable levels as well as the absence of soil conservation considerations in most policy discussions. Farmer attention to higher yields and productivity, new marketing opportunities such as corn-based ethanol, and federal supports combine to encourage farmers to increase

1. FDR wrote this often-quoted line in a 1937 letter concerning the model soil conservation district law he circulated to the states for adoption. Letter from President Franklin D. Roosevelt, to State Governors (Feb. 26, 1937).

2. *Crop Insurance: Building a Better Future for Family Farms by Strengthening the Farm Safety Net*, NAT'L SUSTAINABLE AGRIC. COALITION, https://sustainableagriculture.net/our-work/campaigns/fbcampaign/crop-insurance/ (last visited Feb. 26, 2021) (on file with the *University of the Pacific Law Review*).

3. Food Security Act of 1985, Pub. L. No. 99-198, 99 Stat. 1354 (1985).

production but give little attention to traditional ideas of soil conservation. When viewed from a historic perspective, we appear to have given up on soil conservation and instead institutionalized soil erosion at levels of soil loss which threaten our future productivity. Even heightened attention in the last decade to the impact of agriculture on water quality and new conservation programs to focus more on "working lands" rather than land retirement have not altered the trajectory of our soil conservation outcomes.

This Article concludes with suggestions for what is needed to help re-energize the nation's soil conservation policy and reverse the decade's long drift in attention. It identifies dubious concepts like "tolerable soil loss" which need to be jettisoned and asks if the recent surge in interest in the concept of "soil health" and its role in addressing climate change might serve as one of the vehicles for renewing national attention to soil conservation. The opportunity to promote a new age of soil conservation policy—writ large—is as nearby as drafting a New Conservation Title for the next farm bill.

I. SOIL CONSERVATION AND MY HISTORY ON THE LAND

I have been studying and writing about U.S. soil conservation for over forty-five years. My last year of law school included a six-credit study on U.S. soil conservation policy. The scale and technology used in farming may have changed but one thing has not changed during this period: we continue to lose soil at an alarming rate, on average around five tons per acre per year on the Nation's roughly 400 million acres of crop ground.[4] This rate of soil loss greatly exceeds the rate new soil is being "made" or replaced through natural processes. For conventionally farmed lands, the majority of fields are farmed with intensive agro-chemical systems, and the amount of new soil being created is minimal. This is true even though conventional wisdom in U.S. agriculture and the official policy of the USDA is that intensively farmed fields replace soil at approximately five tons per acre per year. This comforting fiction lets us believe things are just about in balance and our approach to soil management is sustainable. Ask any reputable scientist working on soil conservation if this is true and you may get a much different answer. Iowa's topsoil scientist and agronomist at Iowa State University ("ISU"), Dr. Rick Cruse, estimates most conventionally farmed Iowa fields reproduce soil at a rate of one-half ton per acre per year, or one-tenth the figure used for official government estimates.[5]

To help put the soil loss of five tons coming off each acre into perspective, it

4. USDA NAT. RES. CONSERVATION SERV., SUMMARY REPORT AUGUST 2015: 2012 NATIONAL RESOURCES INVENTORY 5–37 (2015), www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd396218.pdf (on file with the *University of the Pacific Law Review*).

5. *Cruse: Cost of Soil Erosion in Iowa is Not a Pretty Picture*, GLOB. GAZETTE, https://globegazette.com/community/mcpress/opinion/editorials/cruse-cost-of-soil-erosion-in-iowa-is-not-a-pretty-picture/article_f201af99-ade8-578d-a977-ae60149dcd07.html (last visited Feb. 11, 2021) (on file with the *University of the Pacific Law Review*).

helps to compare the lost soil to the crops produced on the same land. In 2019, Iowa's average corn yield was a record 198 bushels per acre.[6] A bushel of shelled corn weighs fifty-six pounds, so the weight of the corn produced on an acre is around 10,000 pounds. You can do the math—it almost equals the weight of the soil lost in producing the corn. Another way to picture it is for each semi-truckload of corn driven off the farm to the local elevator, another truck filled with rich topsoil is driven away. This "crop" of soil does not go to town; instead, it is dumped into nearby streams, rivers, road ditches, or wherever else wind and water take it. If instead of corn we grow soybeans, the story gets even worse. In 2019, Iowa's average yield for beans was fifty-five bushels per acre, and a bushel of soybeans weighs sixty pounds.[7] This means the field produced about 3,300 pounds of crops but lost over 10,000 pounds of soil. So instead of one truck of soil leaving for each truckload of beans, the picture now jumps to three truckloads of soil! How long can we keep doing this you ask? Apparently as long as we keep fooling ourselves into believing it is not a problem—or as long as the soils we are mining hold out.

Some observers will tell you we are making progress in our soil conservation efforts. There is some truth in this, but it all depends on where you look. Forty years ago, writing my law school study on soil conservation policy, the view was we were losing two trucks of soil for every truckload of corn produced. That was true, only because corn yields were closer to 100 bushels per acre rather than the 200 bushels today.[8] In the intervening period, improved corn genetics, higher rates of fertilizer use, increased plant seed populations, and other cropping practices have doubled yields; but when it comes to topsoil lost, not a whole lot has changed. In fact, on more marginal ground, intensive row cropping is making soil erosion worse.

Therein lays one of the many obstacles to improving how we treat the soil and one of the contradictions in attitudes toward farming. The long-term dangers and threats of soil loss, leaving aside the impact of degraded water quality and silt-filled streams, is a long-term, gradual loss of soil fertility, soil health, and crop productivity. Soil scientists, conservation officials, and some politicians have been warning us about these dangers for almost 100 years. Because the actual losses in soil fertility have been masked over by our "improved" cropping practices, the threats of soil erosion have been easier to ignore. As Aldo Leopold put it, our improvements in agriculture focus on improving the pump but we do little to take care of the well.[9]

Today, we are eighty years down the road since the Dust Bowl of the 1930s

6. NAT. AGRIC. STATISTICS SERV., USDA, IOWA AG NEWS—2019 CROP PRODUCTION (2020).

7. *Id.*

8. *Average Corn Yields 1960–2011 with Regression Analysis*, AGRONOMY DEPT., IOWA ST. U. (May 30, 2012), https://www.extension.iastate.edu/soils/sites/www.extension.iastate.edu/files/soils/Corn%20Yields%201960-2011%20w:%20Regression_fixed.pdf (on file with the *University of the Pacific Law Review*).

9. ALDO LEOPOLD, A SAND COUNTY ALMANAC 260 (Ballantine Books ed., 1970).

made soil erosion a national concern, but the debate has changed very little. Those who fear the threat of soil erosion say Iowa has lost one-half of its topsoil in the last 100 years, but people were saying the same thing sixty years ago when I was a boy. Now we are 160 years down this destructive path and continue losing even more topsoil. Are we now down another half of topsoil we had left in 1960? Answering this question identifies a second contradiction fueling our Nation's attitudes toward soil loss. The existence of soil erosion depends on where you look because cropland across Iowa and the nation varies widely. In the flatter region of north central Iowa (the Des Moines Lobe as geologists call it), soil erosion due to water is minimal, though winter winds pose a different issue. The last glacier 14,000 years ago flattened the land, leaving it with little slope to speed water run-off and erosion. Travel to Western Iowa where fields are defined by long slopes and steep hills, and the answer is much different. There we did not lose one-half of our topsoil; on many ridgetops, we have lost it all!

You can see for yourself driving on I-80 west from Des Moines toward Nebraska in the late spring after the crops have emerged. Driving for miles through rolling hills reveals the bald spots on the hillsides where the lighter colored soils are visible across the landscape. These clay knobs are devoid of the rich black topsoil once present—a reality made clear by the thin, sparse stands of corn and soybeans growing on them. Drive by again in August and these thin spots will seemly have disappeared, and the fields look lush and green, full of tall stalks of corn. Do not let the appearance of fertility fool you: reality is revealed once harvest comes. Then farmers in the combine cabs will watch the yield monitors, technology telling them in real time how much crop is produced from the rows being combined. This is when the truth comes out as the digital monitors dip and fall, signaling not just lost productivity but a waste of high-priced inputs, seed, fertilizers, insecticides, and herbicides applied to these "bald spots." Data indicates on many Iowa farms as much as 10% of farm fields may fail to consistently produce a profit.[10] This is due largely to the long-term effects of erosion and degraded soils losing fertility, the ability to hold water, and productive capacity.

The loss in soil health is felt in other ways as well. Spring rains will pour down these hillsides because there is little carbon-rich topsoil to act like a sponge absorbing it. As the water runs downhill, it will claw and grab the more loosely bound soil particles, channeling into the rivulets and rills gravity draws on the land. When the farmer returns next spring, these lines will be visible, etched like spider webs drawn by nature on the land. One pass with the disk or field cultivator will sweep them away—like a child shaking an etch-a-sketch to start a fresh drawing with every new crop year. The USDA even has a name for these

10. *See* Donnelle Eller, *ISU Report: Iowa Farm Finances Continue to Erode, with 44% of Growers Struggling to Cover Costs*, DES MOINES REG. (Nov. 14, 2019), https://www.desmoinesregister.com/story/money/agriculture/2019/11/14/iowa-farmers-struggling-financially-ag-economy-downturn-trade-war/4115343002/ (on file with the *University of the Pacific Law Review*).

annual etchings, labeling them "ephemeral gullies." The etchings are ephemeral because they can be erased each spring. How ironic such a poetic name can capture the contradictory sweep of our conservation policy? If we call it a gully it is bad, but if we label it ephemeral, it is only temporary and then tomorrow is just another day. If the gullies are ephemeral, apparently we do not even need to worry about them! Soil scientists estimate ephemeral gullies account for 30% of our soil losses, but the USDA does not measure or count them in the official estimates.[11] Remember the five tons mentioned above, it is really closer to 6.5 tons when the soil lost to ephemeral gullies is added in. We will need to hire another truck to carry away the additional lost soil.

Enough talk about the physical dynamics of soil loss. Instead of focusing on why it is happening, a better question is "Why have we let it continue for generations?" It was not always like this. In the early years of federal farm policy beginning in the 1930s, soil erosion was seen as a critical issue. Then attention to soil erosion was crystallized by scenes from the Dust Bowl and the images of destruction and human despair it produced. There was common agreement about the need to fight soil erosion and for direct government action to promote soil conservation across the farm sector. Books were written, agencies created, laws enacted, and billions of dollars in public funds invested, along with the time and efforts from countless farmers and landowners. Progress was made, soil and water conservation districts were formed across the nation's farm country, conservation plans were written to help farmers know what practices to adopt, and thousands of soil conservation technicians were hired by the USDA and local districts to carry out the work. The results were visible on the land and can still be seen in the seemingly endless miles of terraces built on the sloping lands, the grass waterways slowing the water, the shelterbelts taming the winds, and in the contouring farming and wiser practices used by farmers. These efforts combined to save millions of tons of soil and keep it in place.

Over time, as with many other "great concerns," attention flagged, and new more pressing issues demanded attention. The war came and demanded land be put back into production to help us win it and to feed a hungry world. As farming practices improved, our concern for lands we once consider "abused"—like the "bleeding hills" of southern Iowa—diminished. The issue became can these lands be farmed if we do it the right way? Fears about soil loss were lessened as crop yields grew and worries about "losing" abused land faded. The result was not that we lost all interest in soil erosion or in promoting soil conservation. The issue just lost its immediacy and potency to spur action. Instead, soil conservation

11. For a discussion of the challenges measuring soil loss from ephemeral gullies, *see* JERRY BERNARD, ET AL., NAT. RES. CONSERVATION SER., EPHEMERAL GULLY EROSION—A NATIONAL RESOURCE CONCERN 2, 6 (2010), https://www.ars.usda.gov/ARSUserFiles/60600500/NSL%20%20Research%20Reports/Bernard,%20Lemunyon,%20Merkell,%20Theurer,%20Widman,%20BIngner,%20Dabney,%20Langendoen,%20Wells,%20Wilson,%20NSL%20Research%20No.%2069.pdf (on file with the *University of the Pacific Law Review*); *Cruse: Cost of Soil Erosion in Iowa is Not a Pretty Picture*, *supra* note 5.

became just one part of a larger web—a constellation of government agencies and farm programs and another option for a farmer to consider. That is, farmers consider soil conservation while at the same time trying to produce enough crops and income to keep farming or expand to compete in the coming age of farm consolidation, crop specialization, and a changing farm structure. The emerging farm structure left less room on the land for livestock and less reason for diversified crop rotations. The farming mentality of the 1940s and early 1950s—the period our conservation policy was designed for—gave way to a more industrialized and chemical dependent style of farming. In many ways, a farmer's commitment to soil conservation became a personal choice, something you could choose to do or not.

As a boy growing up there was one neighbor, Gene Swartz, who farmed about four miles east and who was widely known for his commitment to soil conservation. He served for years as an Adams County Soil and Water Conservation District commissioner, he installed many conservation practices on the land, and hosted field days and demonstrations.[12] Besides him, I can think of no other farmers in the area who made a big deal of soil conservation. Do not get me wrong; I am not saying my neighbors did not care about their land. To know that answer you had to walk their fields. It just was not a main priority. I worked on many of those fields each summer as a hired laborer putting up hay, walking beans, or cutting thistles in the pastures. The fact there were still hay fields and pastures tells something about it being a different era. Today, most of those fields are plowed under, put to work raising the state's darling crops of corn and soybeans.

If you could choose to be a conservation farmer as neighbor Gene did, you could also choose not to be one. That was the story throughout the 1960s, 1970s and into the early 1980s. Federal soil conservation programs offered by the USDA through the Soil Conservation Service ("SCS")—now the NRCS—were there if you chose to use them. Only in those years when there was a mandatory set-aside of corn acres to be eligible for farm programs payments was conservation a requirement. Then farmers had to set aside the required percent of base acres and plant them to conserving crops, such as grass. Conservation was only required on the set-aside ground, and typically farmers chose the least productive acres to set aside. How the rest of the land was farmed was entirely up to the farmer and no federal conservation rules applied. Some had a conservation plan drawn up for the farm by a SCS soil technician. Doing so could help secure cost-sharing funds from the USDA to help pay part of the cost of installing soil conservation practices, like terraces and even building farm ponds to water the cattle. If a farmer did not need terraces or did not feel like farming according to a plan, there was no need to worry because soil conservation was entirely voluntary. This eventually changed when passage of the conservation title in the

12. *Obituary: Gene Swartz*, TRIBUTES.COM, http://www.tributes.com/show/79226039 (last visited Feb. 11, 2021) (on file with the *University of the Pacific Law Review*).

1985 farm bill brought about a new era of soil conservation.[13] But even then, the law used conservation as a way to address the financial stress of the 1980's farm crisis, repeating how conservation was used in the Great Depression to justify federal payments for struggling farmers.

II. A BRIEF HISTORY OF U.S. CONSERVATION POLICY

Early last century, a few visionary agriculturalists began to raise the alarm about soil erosion. Hugh Hammond Bennett of North Carolina identified what is now called "sheet erosion" or the steady loss of a thin sliver off the soil surface—kind of like tearing pages out of a book.[14] This erosion is not obvious because it happens gradually and does not impact farming yields very much. It is less visible than the rills—small channels of missing soil you can see etched on the hills after it rains. Over time, even rills can become gullies, and the gullies can become ravines. With sheet erosion, the soil just gets thinner and thinner until eventually all topsoil is lost. In any case, once the soil is "lost," it moves on to clog lakes and streams. One of the best ways to see the cumulative impact of sheet erosion is to stand next to a fence between crop ground and a field that has not been tilled, such as a pasture or perhaps a country cemetery. Then you will see how the farm field may be several feet lower than the untilled land across the fence! Where did all the soil go? This is what Bennett observed and came to understand.

He came along at a good time as the federal government and the USDA were beginning to recognize the threat soil erosion poised and why the nation needed to act. With his leadership, the USDA in the 1920s created the Soil Erosion Service to study erosion problems and to offer education and advice to farmers about how to protect the soil. It was not until the 1930s and the Great Depression when things came to a head on soil conservation. At that time, the economic distress in agriculture came face-to-face with several years of extreme drought, especially in the Great Plains. Several decades of wet years had led farmers to plow up thousands of acres of grass from the plains and expand farming onto the dry lands. They did so in part under the mistaken belief the "rain follows the plow." Well, it does not and did not. Instead, what developed was the great blow out of the late 1930s—known as the Dust Bowl. The destructive phenomena, both for humans and the land, was captured in John Steinbeck's classic *The Grapes of Wrath*,[15] in the songs of Woody Guthrie like "Dust Bowl Refugee,"[16]

13. Food Security Act of 1985, Pub. L. No. 99-198, 99 Stat. 1354 (1985).

14. Hugh Hammond Bennett is widely considered to be the father of soil conservation efforts in the U.S. and helped lead the federal efforts for several decades. His accumulated knowledge about soil conservation is contained in: HUGH HAMMOND BENNETT, SOIL CONSERVATION (McGraw-Hill ed., 1939).

15. JOHN STEINBECK, THE GRAPES OF WRATH (Viking Press 1939).

16. *See* ELIZABETH PARTRIDGE, THIS LAND WAS MADE FOR YOU AND ME: THE LIFE AND SONGS OF WOODY GUTHRIE 90 (Viking Press 2002).

and more recently in Timothy Egan's *The Worst Hard Time*.[17] Once we had plowed under the millions of acres of native short grass prairie, there was nothing left to hold the soil. When the winds came, the land literally blew away.

The old Soil Erosion Service which had been housed in the Department of Interior became the Soil Conservation Service and moved to the USDA, where for over eighty years it has shaped these efforts with the assistance of Congress. In 1937, FDR sent a letter to all the governors concerning a model state act for forming soil conservation districts.[18] Within a few short years, every state had adopted some version of the model law, Iowa's Code Chapter 161A included.[19] States enacted the laws in part because doing so was the ante the states had to put in the game to partake in new federal funding provided for conservation efforts. The most significant part of the law provided for creating locally organized soil and water conservation districts to be governed by elected five member commissions.[20] Secretary of Agriculture Wallace's idea was to create a locally run, de-centralized system to promote soil conservation, protecting the USDA from claims of federal over-reach and allowing efforts to be tailored to the soils and agriculture of various regions.

The 1930s were a fertile period for thinking about land conservation, even as the nation was preparing for the war that people knew was coming. The SWCDs were created, the USDA hired thousands of soil conservationists to work with farmers developing conservation plans for their farms, and tens of thousands of young men were employed by the Civilian Conservation Corps ("CCC") to work on conservation projects throughout the United States. The history of the CCC is fascinating, a tale told by Neal Maher in *Nature's New Deal: The Civilian Conservation Corps and the Roots of the American Environmental Movement*.[21] When America entered the war in late 1941, the nation needed the farming sector to step up to increase food production to help win the war. The good news is, by that time, the idea of addressing soil erosion as part of that fight was becoming well-engrained in the minds of farmers and landowners as well as politicians.

In the fall of 2015, Drake's Agricultural Law Center hosted the first conference in what would be a series called SOIL, short for Sustaining Our Iowa Land. The focus in 2015 was the Future of Soil Conservation in Iowa, and it brought together over 150 citizens for an engaging and inspiring day. Farmers, professors, public officials, students, and conservationists from across the state shared a growing recognition of the need for action and new ideas about what

17. TIMOTHY EGAN, THE WORST HARD TIME (Houghton Mifflin 2006).

18. For a general discussion of the history of the development of the model law and its enactment by all the states, *see* Huong N. Tran & Liu Chuang, *State Conservation District Laws Development and Variations* 1 (Nat. Res. Conservation Serv., USDA, Working Paper No. 3, 1996).

19. IOWA CODE § 161A.44 (1939); *see* Huong N. Tran & Liu Chuang, *State Conservation District Laws Development and Variations* 1 (Nat. Res. Conservation Serv., USDA, Working Paper No. 3, 1996).

20. USDA, A STANDARD STATE SOIL CONSERVATION DISTRICTS LAW 14 (1936).

21. NEAL M. MAHER, NATURE'S NEW DEAL: THE CIVILIAN CONSERVATION CORPS AND THE ROOTS OF THE AMERICAN ENVIRONMENTAL MOVEMENT (Oxford Univ. Press 2008).

Iowa can do. My notes identify several key observations.

First, the idea of tolerable soil loss needs to be rejected and instead the focus should be on soil health, a broader concept. The concept of T—or tolerable loss—is built into state and federal conservation programs. Rather than believe there is an "acceptable" level of erosion, the goal should be to eliminate any soil erosion. Second, the adoption of cover crops and using other innovative conservation practices, such as field edge buffers, needs to accelerate. Keeping livestock on the land to utilize more grass and forage is an opportunity we cannot afford to overlook. Third, agricultural retailers selling the chemicals and fertilizers need to be engaged in reducing nutrient loss and promoting soil health because they are a critical source of advice for farmers. Fourth, more landowners need to have conversations with their tenants about soil and water conservation. The changing nature of land tenure is creating new audiences of landowners, such as increasing landownership by women who will be critical to addressing soil and water conservation. Fifth, the main tool for effective conservation projects is using watershed planning to develop collaborative projects neighboring farmers and landowners can support. Increasing public funds to help share costs and investments made by farmers and landowners on the land is key to protecting soil and improving water quality. Sixth, Iowa has a rich history of legislative and judicial support for protecting soil and water resources. The laws already on the books need to be enforced, and the soil and water conservation districts need to be more active. Federal farm programs need to work in unison not at cross-purposes. Conservation efforts protect soil and water, but other programs—especially expanded reliance on crop insurance—encourage farming on vulnerable lands and contributes to soil loss and water problems.

III. WHAT DO THE EXPERTS SAY ABOUT WHERE WE ARE WITH SOIL CONSERVATION?

Several years have passed since the 2015 conference, but looking at the observations reveals our need to shake off the inertia of current thinking and re-energize efforts to protect soil and water. To ground-truth this observation against current reality, I turned to two of the nation's most well-regarded experts on soil conservation and soil health. My first interview was with Dr. Rick Cruse, a professor of agronomy at Iowa State and head of the Iowa Water Center. Cruse is best known for creating the Iowa Daily Erosion project, an extensive statewide network of field monitors.[22] The project makes it possible to estimate in real time the amount of soil erosion happening anywhere in the state based on current precipitation events. The effort is remarkable for the complexity of the design and the powerful data it generates. It is helping change our understanding about the magnitude and costs of the soils being lost from Iowa farmland. The second

22. *See What Is DEP?*, DAILY EROSION PROJECT (Jan. 30, 2021), https://www.dailyerosion.org/ (on file with the *University of the Pacific Law Review*).

interview was with Dr. Jerry Hatfield, the recently retired head of the USDA National Laboratory for Agriculture and the Environment. This USDA Agricultural Research Service facility is located on the ISU campus in Ames but not part of the University. Hatfield, a straight shooter known for candor and honesty in his talks to farm audiences, has long been one of the nation's leading scientists studying soil health. His research on carbon and microbial life has helped improve our understanding of how soil structure contributes to its ability to absorb rainfall. This observation is helping farmers understand how soil conservation and soil health are essentially a function of how water is managed on the land. Hatfield believes the key to protecting land from erosion is improving the infiltration capacity of soils to absorb precipitation, especially the larger rainfalls more common with a changing climate.

To guide the interviews, I posed several questions, beginning with: "Have we given up on traditional soil conservation goals and instead come to institutionalize soil erosion as the cost of production?" There was broad agreement from both: we have largely given up on soil conservation in the traditional sense, or at least lost sight of it. Jerry Hatfield made several comments about our need to look for new approaches to soil conservation, even saying we need an awakening in agriculture and more imagination. He said, "we are going to have to look at agriculture differently going forward," adding "we need a revolution in agriculture on how we treat our soil and stabilize productivity."[23] His concerns were best summarized when he said:

> In our era of agriculture, we have taken soil for granted which was made possible for corn and soybeans with technology-driven increases in productivity and an infrastructure of government support like crop insurance to remove the risk. The result is we became complacent about soil and don't focus on the role of water or carbon.[24]

He concluded by asking whether producers are ready to consider doing things differently and begin treating soil as a living entity, rather than just as a growth medium.

Dr. Cruse made several observations confirming how attention to soil conservation has waned. As a good scientist, Cruse uses the image of a bell curve to describe variations in the attitudes of farmers and landowners when it comes to addressing soil conservation and water quality. The reality is people are spread all along the curve and where they are located is a function of economics, education, and even politics. Cruse noted it is important to recognize a third dimension we must consider with land issues: the role of landowners and their ability to limit what farm tenants do on the land. Tenancy issues such as the

23. Telephone Interview with Jerry Hatfield and Rick Cruse (retired), USDA Nat'l Lab. for Agric. & the Env't (June 19, 2020) (notes on file with the *University of the Pacific Law Review*).

24. *Id.*

length of the lease, the priority given to conservation, the required "investments," and how these factors play out in a competitive land market, such as cash rent auctions, can all influence if soil conservation practices are implemented. Cruse answered my question about whether we have the policy capacity to develop innovative conservation ideas by noting he has trouble identifying anyone with the scope and stature of the people who developed the landmark conservation programs included in the 1985 farm bill. This lack of capacity is true even for the Soil and Water Conservation Society, now focused less on policy development than a generation ago. Nor does the NRCS embrace policy innovation because the agency is strapped for funding and has reduced staff capacity.

In a larger sense, Cruse believes agriculture has come to treat soil erosion and its costs as an "inconvenient truth," an issue to deal with in the future but not now. He explained this shift by describing how farmers historically used crop diversification to reduce risk and stabilize income and to address conservation. This approach disappeared with today's corn and soybean monoculture and the lack of livestock on most farms. Instead of crop diversification, Cruse noted we have substituted public programs like crop insurance, farm program subsidies, and market facilitation payments as the way to deal with risk and income instability. The effect, he believes, is we treat agriculture like an industrial system rather than the biologic system it is. He observed that "we know what we need to do" when it comes to soil conservation, we just need basic rules to level the playing field.

Cruse concluded by admitting he is not optimistic we will change our ways as to the soil or that the newfound interest in soil health will exceed the concern with economics. On reflection, he quickly regained his characteristic optimism, observing how using the term "health" adds a new and powerful idea to our thinking about soil. His final comment, echoing Dr. Hatfield, concerned our need to address changing rainfall patterns being brought on by climate change. He stated we cannot build terraces big enough to handle five-inch rains, instead we have to absorb water in the soil.

IV. THE MYTHS WE TELL OURSELVES ABOUT SOIL CONSERVATION

The late 1930's national movement to address soil conservation led to the Soil Conservation Service, new USDA conservation programs, and the local soil districts supporting conservation efforts on many farms. Over time our efforts lost steam and, perhaps as is human nature, soil conservation laws need to be re-invigorated periodically. The last major effort to do so was thirty-five years ago with passage of the conservation title of the 1985 farm bill.[25] Today, it is time to reexamine where we are and to ignite a new push to re-energize addressing the soil erosion and land abuse threatening the future of U.S. agriculture. Doing so

25. Food Security Act of 1985, Pub. L. No. 99-198, 99 Stat. 1354 (1985).

requires addressing the skeptics who question why such an effort is needed and the doubters who believe everything is just fine with our current farming practices when it comes to the soil. One way to stimulate a new effort is to examine the myths we tell ourselves about the current situation with the soil, the half-truths lulling us into complacency. By confronting beliefs we take for granted, we can question their truth and perhaps acknowledge the need for change. Here are some of those myths:

A. Myth 1: Soil conservation is no longer a problem—at least in Iowa—because the USDA estimates soil loss is only around five tons per acre per year—a 20% improvement from forty years ago[26]

This is the "we have taken care of it" myth. Of course, these numbers are averages and on millions of acres of land the soil loss is much higher than five tons. In addition, the USDA does not include the soil lost to ephemeral gullies, which would add another 30%. As to the level of change, there has been little improvement in soil loss rates since 1992,[27] and the previous improvements were largely from programs to retire highly cropland such as the CRP.

B. Myth 2: The USDA says the Iowa soils replace themselves at around five tons per year, meaning soil losses are tolerable and balanced near a maintenance level

This is the "tolerable soil loss" myth. USDA estimates on the rate of soil replacement are wildly optimistic, and many soil scientists believe the real rate is closer to half a ton per year or one tenth what the USDA says, meaning we may be losing soil at ten times the replacement rate.[28] The truth is no level of soil loss should be "tolerable" because any soil that moves reduces fertility and water absorption capacity and becomes the silt in lakes and streams, increasing flooding potential and degrading water quality.

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26. *National Soil Erosion Results Tables*, NRCS, https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/nri/results/?cid=stelprdb1041678 (last visited Feb. 6, 2021) (on file with the *University of the Pacific Law Review*).

27. *Id.*

28. Tom Philpott, *Iowa Is Getting Sucked into Scary Vanishing Gullies*, MOTHER JONES (Feb. 7, 2014), https://www.motherjones.com/food/2014/02/iowas-vaunted-farms-are-losing-topsoil-alarming-rate/ (on file with the *University of the Pacific Law Review*).

C. Myth 3: All farmers have a government designed conservation plan in place, so what else is needed?

This is the "all farmers have conservation plans" myth. The truth is most farmers do not have a conservation plan for their land and if one was written in the past it may have been long forgotten. No federal law requires farmers or landowners to have a conservation plan unless they choose to do so or participate in a voluntary USDA program requiring one, such as the Conservation Security Program. Iowa law provides the authority for county soil districts to require conservation plans for all landowners, but the districts and state have been reluctant to require them or to enforce the state law establishing mandatory soil loss limits.

D. Myth 4: To participate in federal farm programs and crop insurance, farmers and landowners must meet strict soil conservation rules enforced by the USDA, so any past problems have been addressed

This is the "government conservation rules are sufficient" myth. The truth is the "mandatory" federal rules are not very rigorous and pose few restrictions on most farming practices. Farm program participants are required to sign a conservation compliance form, AD-1026, but it only requires promising to refrain from draining new wetlands (swamp busting) or farming highly erodible land not recently cropped (sod busting).[29] If producers farm Highly Erodible Land (HEL) like the ten million acres of it here in Iowa, they need to meet conservation requirements established for the fields. Many studies and government reports indicate USDA efforts to "enforce" conservation compliance rules are spotty and inconsistent, when enforcement even exists.

E. Myth 5: Protecting the soil is a main concern of most farmers and landowners, and they readily invest in protecting the soil

This is the "farmers and landowners love the soil" myth. It is true many farmers and landowners are concerned about soil losses, but it is certainly not the general rule. Surveys of rural landowners and farmers done by Iowa State indicate most have spent or invested little money over the last decade to improve soil conservation.[30] Surveys also indicate most landowners who rent their land to tenants are reluctant to make long-term investments in conservation practices,

29. *See* USDA FARM SERV. AGENCY, AD-1026: HIGHLY ERODIBLE LAND CONSERVATION (HELC) AND WETLAND CONSERVATION (WC) CERTIFICATION (Oct. 30, 2014), https://www.farmers.gov/sites/defaut/files/documents/Form-AD1026-Highly_erodible-Land.pdf (on file with the *University of the Pacific Law Review*).

30. IOWA STATE UNIV. EXTENSION & OUTREACH, IOWA FARM AND RURAL LIFE POLL 2018 SUMMARY REPORT 8–9 (2019).

and most leasing negotiations do not address soil conservation.[31]

F. Myth 6: Even if soil loss occurs on some fields, it does not impact productivity as yield trends show

This is the "we have plenty of soil so not to worry" myth. The fact we have deep fertile soils left in some places is not a justification for letting soil continue to waste away, any more than having money in the bank means it is fine to spend it foolishly. Allowing soils to wash off and erode will gradually and eventually reduce yields, as ISU research shows.[32] Decades of soil neglect are readily apparent in the spring when you drive the countryside and see the bald spots, the clay knobs, and the thin stands of new crop on view. Lost soil does not disappear, it just becomes a problem for others to address—whether as drainage issues for neighbors whose waterways silt full, water quality issues for nearby towns, or flooding because reservoirs are filled with "lost" soils. Allowing soil losses to pollute others is anti-social behavior and essentially immoral. It is important to remember we all live downstream from someone.

IV. HOW WE TREAT THE LAND TODAY

One powerful feature of Aldo Leopold's writing was his ability to put into historic and biblical context the issues resonating today many years later. Consider this quote about the understanding some landowners have about why lands exist: "It was to drip milk and honey into Abraham's mouth. At the present moment, the assurance with which we regard this assumption is inverse to the degree of our education."[33] Does our current rush to produce corn-based ethanol and visions of a golden period of ever-greater productivity seem reminiscent of Abraham's view of the land, dripping honey into our collective mouths? It is here Leopold's powerful metaphor of agriculture being a pump and the land being a well rings prophetic:

> The ecological fundamentals of agriculture are just as poorly known to the public as in other fields of land-use. For example, few educated people realize that the marvelous advances in technique during recent decades are improvements in the pump, rather than the well. Acre for acre, they have barely sufficed to offset the sinking level of fertility.[34]

New attention to the impact of tenancy and for the opportunities of resilient

31. *Id.*

32. Mahdi Al-Kaisi, *Soil Erosion: An Agricultural Production Challenge*, IOWA ST. U. EXTENSION & OUTREACH, https://crops.extension.iastate.edu/encyclopedia/soil-erosion-agricultural-production-challenge (last visited Feb. 6, 2021) (on file with the *University of the Pacific Law Review*).

33. LEOPOLD, *supra* note 9, at 205.

34. *Id.* at 223.

agriculture show concern for land as a well, not just as a pump. Our climb toward anything resembling Leopold's version of a land ethic is steep and seeing how some owners treat the land is disheartening. It is clear many landowners recognize little semblance of an ethical duty to the land, at least not in a Leopoldian sense. To a cynic, it appears our land ethic—if the term ethic can be used so casually—is all about economics, maximizing returns, increasing yields, and selling for the highest price. "Get the most you can out of your land now" could be our motto. If this requires plowing under a hillside pasture or grassland protected for the last fifteen years under a CRP contract, to plant more corn, so be it. If it means recreational fall tillage and leaving soil bare until spring, so be it. If it means running the planter over the stream bank or letting cattle amble in the streambed, so be it. If it means bulldozing the last plum thicket in the fencerow, so be it. Even if it means platting out housing lots for the final harvest on a flat fertile forty, whose only crime is being in the way of suburban progress and an annexation hungry town, so be it. Owners are legally entitled to do all of this and more and dare anyone say doing so is somehow unethical.

We ask little of the land, other than it yield without resistance to our decisions and return the largest sum possible, to drip Abraham's honey into our mouths. In exchange, we expect the land to ask nothing of us in return, perhaps other than paying the taxes, recording the deed, and cashing the checks. There is no expectation we will care for the land—at least if caring means love, respect, attention, or foregoing a harmful action. What care we do provide is driven by a calculus it will pay off in the near term or help meet some oppressive government rule, one obeyed grudgingly, if at all. The truth is we do not expect anyone to ask us to do anything for our land, certainly not the government, the neighbors, nosey environmentalists, or do-gooder professors. The states may have laws to protect the soil, but who is there to enforce the law on the Back Forty? We are quick to sing paeans to our rich farmland and its bounty, but good luck finding a community willing to stay annexation plans to protect prime farmland. It is risky to tell any dues-paying member of a farm organization that land cannot be sold for housing lots. The story is no different with the federal farm program payments and crop insurance subsidies handed out by the billions, with few questions asked. The public's bargain in providing taxpayer support is a commitment that landowners will comply with soil conservation rules; but drive any country road in the spring or check local USDA office enforcement records to see if the promise of conservation compliance is empty or real.

V. DOING CONSERVATION SO IT STAYS DONE

A constant challenge in America's battle with soil erosion is once farmers and landowners adopt conservation practices how can we be sure the practices will stay in place on the land? A perfect example is the popular CRP, paying landowners annual rental payments under ten- or fifteen-year contracts for retiring the land from crop production and implementing basic conservation like

planting vegetation. From when the CRP was introduced in 1987 until today, participation has ranged between twenty and thirty-three million acres, with annual rental payments to landowners averaging over $2 billion each year.[35] But those numbers obscure another truth about the CRP: millions of acres once retired and compensated by the public have now returned to production, while other lands have cycled in. Some CRP farmland has been subject to repeated contract renewals and been retired for over a generation, all while owners received annual rents from taxpayers. From a public perspective, we received the conservation benefits from the land retirement but financially may have paid enough to purchase the land, in some cases several times over. We just did not get a deed transferring it to public ownership. Instead, the land remains in private ownership and can be taken out of conservation and put back into crops if a new owner so decides.

A similar thing can happen with other permanent conservation practices, such as field terraces, if a change of ownership or the scale of farm leads the new owners to remove the practice because they no longer fit the style of farming. The cost-sharing contracts used by federal and state conservation agencies to help landowners installing the practices include requirements to maintain the practices for up to twenty years, but it is not clear the provisions are routinely enforced or regularly checked for compliance. This raises a critical question: "How to do conservation so it stays done?" To answer the question, we have to consider what options might be available for doing so. One is better landowner education so there is a stronger commitment to conservation. Even then, one challenge is how this commitment can be carried forward if land ownership moves to new owners. Public ownership of the land could be an answer, but the idea is unworkable and unreasonable not just because of the expense but because it runs counter to our founding ideal that land should be in private ownership and in production. It is also unnecessary if we enforce the maintenance agreements and rules for when public funds are used for conservation on private land. Another important step would be to establish basic standards of stewardship incorporated into regulations applying to all land and all landowners to make conservation more permanent. A final suggestion is some form of property interest held by a third party, such as a land trust, responsible for certifying continuation of conservation practices. This approach, essentially a conservation easement, could compensate the landowner for the property interest and provide long-term certainty for the public. The role could be filled by a private non-profit or the government conservation agencies could enforce the obligations. The NRCS already does something similar for the lifetime of CRP contracts, which it treats as legal easements on the land. The NRCS also holds permanent easements

35. For current USDA statistics on the CRP program and its history, *see Conservation Reserve Program*, USDA FARM SERV. AGENCY, https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index (last visited Mar. 9, 2021) (on file with the *University of the Pacific Law Review*).

on land entered into the USDA's programs to protect farmland and restore wetlands.[36]

The point is, if we are serious about conservation and land stewardship, there are policy tools available to make sure the public investments are not lost due to short-term pressures landowners may experience. One exciting aspect of the growing interest in how farming and farmland may be used to address climate change is how the contractual agreements to compensate landowners for these benefits will most certainly incorporate provisions ensuring the commitments are long-term.

VI. DID WE GIVE UP ON SOIL CONSERVATION?

The 1930s showed how government officials approached soil conservation as a central issue of public policy, a recognition widely shared across agriculture by farmers, agricultural leaders, and the public. Unfortunately, we cannot say the same today about the food and agricultural community. It has been many years since a USDA Secretary raised the alarm about soil loss. The same is true of farm and commodity organizations—few make soil loss a major issue. Admitting we have an erosion problem might focus blame on their farmer members so major farm groups like the American Farm Bureau and even the Farmers Union choose to ignore soil loss. The most you can expect from these groups is pressing Congress for more money in "conservation" programs, especially programs paying to retire the land or for practices already adopted. Implementing innovative conservation practices or taking permanent steps to protect the soil will require new initiatives and leadership. In recent years, more attention has been given to working lands programs to pay farmers for integrating new conservation practices on the land.[37] Notably, the USDA is now examining methods to improve soil health and promote efforts to sequester carbon.[38]

Several observations can be distilled from this history. One reason attention to soil conservation declined is the proliferation of commodity-specific organizations. Issues like conservation are not a main concern, instead their focus

36. For a discussion of how USDA uses long-term easements in programs for farmland protection, grasslands and forest reserves, and wetland restoration, referred to collectively as Agricultural Conservation Easement Program (ACEP), *see Easements*, USDA, https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/ (last visited Mar. 3, 2021) (on file with the *University of the Pacific Law Review*).

37. The Conservation Stewardship Program is the USDA's most extensive working lands initiative and it is poised to play an increasingly important role as the vehicle through which USDA may promote programs to sequester carbon. For a discussion of the CSP, *see generally* *Conservation Stewardship Program*, USDA, https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/ (last visited Mar. 3, 2021) (on file with the *University of the Pacific Law Review*).

38. *Soil Health and Carbon Farming Central to Mission of RCDs*, USDA, https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ca/home/?cid=NRCSEPRD1513614 (last visited Feb. 11, 2021) (on file with the *University of the Pacific Law Review*).

is expanding export markets and supporting crop insurance programs and related production issues. Major farm organizations assume conservation is a job for the USDA and Congress to address. As a result, no farm organization focuses on land care, conservation, or sustainability. Environmental organizations do not focus on soil loss either because they view it as an agricultural issue. Unless farming practices and soil erosion impact their main concerns, result in a loss of wildlife habitat, degrade water quality, or restrict outdoor recreation, the issue is not a priority. If environmental groups do show interest in agricultural practices, the reaction of most farm groups would be to tell them to stay in their own lane and leave farm policy to the experts. Unless something changes, we probably cannot expect the USDA to advocate for new policy ideas. The department is hard pressed to enforce conservation rules now on the books and lacks the staff or funding to do more. When it comes to enforcing existing conservation rules, there is little support in Congress or the farm community because it is apparently never the right time to expect farmers to act to care for the land or water.

If we stopped caring about soil conservation, it may be because no one other than the USDA sees it as their job! As Leopold said, we made it too easy for farmers to be good conservationists—just join some organizations and adopt a practice or two and you are good to go. He said that "[i]n our attempt to make conservation easy, we have made it trivial."[39] One way we made it too easy was leaving the job to the USDA and soil conservation districts, taking the onus off farmers and landowners and never making clear their obligations. If the USDA has cost-sharing funds, you might choose to apply; and if there is a paying conservation program, you might volunteer to sign up. We let conservation become one more voluntary choice. That is great if you want to be a Gene Swartz; but if you do not believe conservation is a priority, there is nothing we can do or say.

Another reason we stopped caring about soil conservation—assuming we once did—was the lack of a moral ethic to the land, the answer Leopold told us seventy years ago. In perhaps his most powerful metaphor, Leopold wrote that "[w]hen the logic of history hungers for bread and we hand out a stone, we are at pains to explain how much the stone resembles bread."[40] He then described some of the stones we serve in lieu of a land ethic: an economic system valuing little other than production; an educational system teaching no ethical obligation to the land; and a political system promoting conservation based primarily on economic self-interest. From a legal perspective, how society answers Leopold's call to land stewardship centers on the relations between humans, society, and the land. Land ownership reflects our belief in democratic institutions, balancing private actions with responsibilities to the public and the social welfare of the community.

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39. LEOPOLD, *supra* note 9, at 210.

40. *Id.*

Short of more assertive legal and regulatory efforts to establish and enforce a landowner's duty of stewardship, there is little reason to expect much improvement. Laws will not work without the will to enforce them. Standing alone they do not nourish an ideal of stewardship, as would the bread of a land ethic.

VII. TEN STEPS TO RE-ENERGIZE SOIL CONSERVATION EFFORTS

We have to return to first principles and remember the long history of soil conservation efforts as foundational to our efforts, i.e., we know how to do this if we have the will.

We have to more effectively use the conservation tools we have in place, with public funding and new energy: conservation planning; soil conservation district implementation; conservation compliance for federal funding; and working land initiatives like the CRP. The key is not starting over; we have a strong base to build on. We just need to examine our tools to identify and address weaknesses.

We need to more fully integrate new concerns and issues into soil conservation: water quality and water management; soil health; and climate change. Doing so will help broaden and freshen the work. As Jerry Hatfield says, soil conservation is essentially water management.

We need to establish a legal and regulatory foundation for soil and water conservation, to establish basic standards and expectations of stewardship. Doing so will help level the playing field for all farmers and landowners and not let conservation be seen as optional or the landowner's choice. As Rick Cruse would say, we need to shift the bell curve so more people are on task with conservation.

We need to address the unique challenges and risks presented by the increasing role of non-operator landowners and the increase in tenancy with a focus on improving leasing practices to promote conservation in the largest sense.

We need to address the "cultural" aspects of soil conservation history—such as discarding the idea of "tolerable" soil loss—and develop more realistic measures of T (i.e., to do conservation so it stays done). We need to account for ephemeral gullies within soil loss measurements.

We need to incorporate private conservation initiatives being developed by farm groups, industry, and food manufacturers so we can increase their buy-in (participation), increase the efficiency of program delivery, and assist the NRCS staff (there is no reason to go it alone if others want to help).

We need to establish identifiable and measurable goals for improvement, and use performance metrics for the number of plans, the improvement in water quality, the declines in soil loss, the acres covered and other measures to tell the progress—not just anecdotes.

We need to work with farmers and input providers to utilize the data analytics being collected and use them to address soil conservation issues. By

broadening the use of yield monitors and having other forms of performance-based field mapping, we can help parties visualize the impact and progress on water quality and soil health.

We need to incorporate improved habitat for wildlife and pollinators into conservation planning and identify ways to improve public access and use of private lands benefiting from public conservation funding. Where it is appropriate, we should incorporate conservation easements and other agreements providing for public use and access to help fund the implementation of conservation on the land.

VIII. CONCLUSION: SOIL HEALTH AND LAND HEALTH

Jerry Hatfield says we need a revolution in agriculture. In his 2017 book, *Growing a Revolution: Bringing Our Soil Back to Life*, David Montgomery says the revolution is already underway.[41] He believes "the foundation of the next agricultural revolution will be rooted in how we think about soil."[42] He notes that "the degradation of soils and loss of organic matter are the most under-appreciated environmental crisis humanity now faces," adding history shows clearly "societies that do not take care of their soil do not last. . . . But the stage is set for ground-up transformation and change, as the short-term interests of farmers increasingly align with preserving long-term soil fertility."[43]

He calls his approach to farming "conservation agriculture," as opposed to organic or conventional. It contrasts with the "tillage-based high-input farming" we now see on the land. His key idea is we should not talk about conservation as an act in itself or as an add-on, but instead it should be at the very heart of our system of agriculture. We have approached conservation and agriculture from the wrong direction by asking two questions: (1) "How are you farming?" and (2) "What did you do for conservation?" Instead, we should ask one question: "How well is your conservation farming working?" His ideas are based on three simple principles: minimal soil disruption, growing cover crops, and devising complex rotations that work together as a system.[44] This soil restoration may offer a triple harvest:

building soil fertility to help feed the world and improve food quality;

storing carbon to slow climate change and boost agriculture's resiliency; and

conserving biodiversity on the land.

He notes challenges to bringing about the new approach to soil fertility, including the present obstacle that "there is no way for consumer demand to

41. DAVID MONTGOMERY, GROWING A REVOLUTION: BRINGING OUR SOIL BACK TO LIFE (W.W. Norton 2017).

42. *Id.* at 18.

43. *Id.* at 8, 18.

44. *Id.*

support soil health other than by consumers buying organic. But this doesn't always match up well. After all, organic practices do not necessarily improve or maintain soil health. It depends on the organic farming practices, especially tillage."[45] In conclusion, he asks several critical questions: (1) "How to brand soil health?" and (2) "How to spur the national and international 'moon shot' needed to spur us toward soil health?" He puts the threat to soil health in a historical context: "After centuries of degrading the soil upon which our continued livelihood depends, we need to reinvest in our most fundamental resource if our global civilization is to avoid the fate of prior regional ones."[46]

IX. THIS MIGHT BE AMERICA'S MOST FAMOUS FARM?

You may not have heard of Matt Russell or Coyote Run Farm. Matt and his husband Patrick operate a 110-acre farm near Lacona, Iowa, selling good food they grow to people they know—what Matt calls "relationship marketing." Whether pasture-raised hens supplying their egg business for many years, the produce they sell to local restaurants, or their grass-fed "freezer beef," the goal is the same: raise great food and find customers happy to pay what it is worth. Coyote Run Farm is not just well known to its customers, it may be the most important farm in Iowa. During the 2019 presidential campaign, Coyote Run Farm was a "must do" stop for many Democratic candidates and staff who wanted to see and experience a more progressive take on the future of agriculture—especially how farmers can address the challenge of climate change. Those who visited got to hear Matt explain how conservation practices are rebuilding the soil and restoring the health of their farmland. They got to learn about his vision for how Iowa farmers can and should be the leaders, the people in the driver's seat, demonstrating the role agriculture must play in our Nation's approach to climate change. The subject is of great interest to the big food companies and national environmental groups who hope to control that agenda. Matt showed the visiting potential presidents how planting cover crops and using grass-based farming to sequester carbon can provide answers we need.

I was honored to have Matt work with me at Drake University for a dozen years, but he has spent the last few years encouraging neighbors and Iowa farmers to join the climate fight. His new job is leading Iowa Interfaith Power and Light, a faith-based organization committed to addressing climate change. The presidential campaign provided him opportunity to spread his message to a national audience and did he ever!

What makes Matt's work so important? Why might Coyote Run Farm possibly be the most famous farm in America? Here are two reasons. During the 2019 campaign, President Joe Biden and First Lady Jill Biden stopped there.

45. *Id.* at 230.
46. *Id.* at 232.

They spent a morning with Matt and neighboring farmers, walking the fields and hearing Matt's message. You guessed it, another candidate who visited was Kamala Harris—the current Vice President! She and her staff got to hear the message too and see resilient farming in action.

I do not know of another farm or farmer in the U.S.—certainly none in Iowa—who "hosted" visits by both the current President and the Vice President to see how farmers, if given the chance, can help create a brighter climate future. This is not your typical sad farm story about failed trade policies, the latest natural disaster, or how farmers need another financial bailout. President Biden has proposed a $2 trillion plan to address climate change, and farmers like the ones he and Vice President Harris met visiting Matt's farm will be front and center in the effort.[47] Their climate plan has a role for farmers of all types who want to be conservation farmers committed to improving the land by working with nature—not against it. Doing so can restore the joy to farming and growing food, and address an important national need—helping re-energize our efforts to protect the soil.

47. Katie Glueck & Lisa Friedman, *Biden Announces $2 Trillion Climate Plan*, N.Y. TIMES (Feb. 1, 2021), https://www.nytimes.com/2020/07/14/us/politics/biden-climate-plan.html (on file with the *University of the Pacific Law Review*).

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