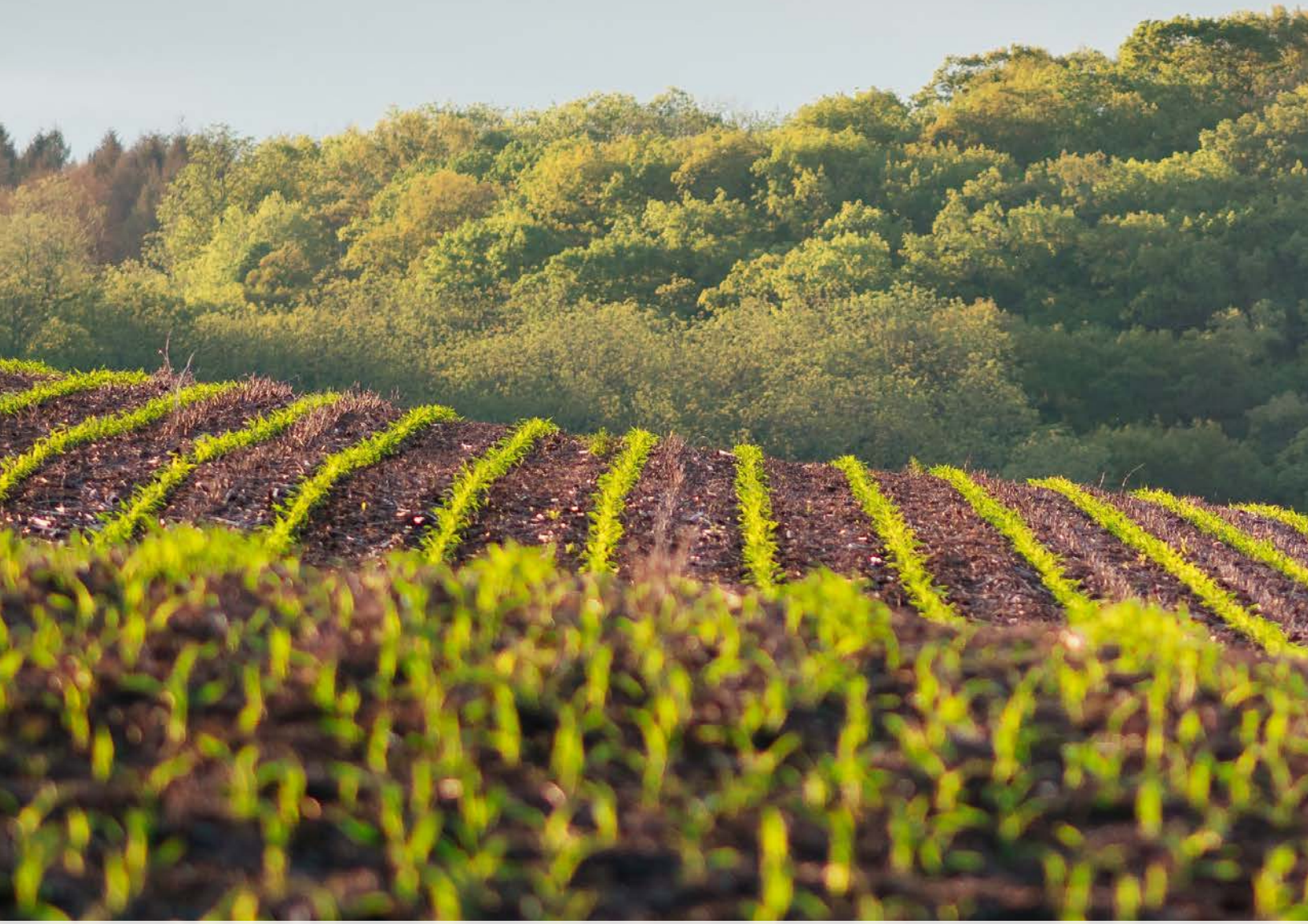
SOIL WEALTH AREAS

Place-based Financing for Conservation, Rural Communities, and Regenerative Agriculture



CROATAN INSTITUTE

ABOUT THIS PROJECT

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Additionally, this project has leveraged more than $1.8 million to date, in non-federal, private sector and in-kind contributions from a variety of project partners, funders, and aligned initiatives including the 11th Hour Project of The Schmidt Family Foundation, Agriculture Capital, Artisan Grain Collaborative, Basil's Harvest, Bender Farms, Community Capital Management, Council of Development Finance Agencies, DD Burlin, Global Impact Investing Network, Globetrotter Foundation, Grassland 2.0, Guidelight Strategies, Mabry Farms, Mercaris, Meridian Institute, Michael Fields Agricultural Institute, Miss Grace Farms LLC, Nathan Cummings Foundation, New Economics Foundation, Oliver's Agroforest LLC, Organic Valley, Partner Community Capital, Patagonia, Paul and June Rossetti, Savanna Institute, Self-Help, Slipstream, Thread Fund, U.S. Farmers and Ranchers in Action, University of Michigan, University of Wisconsin-Madison, Upper Coastal Plain Council of Governments and its Healthy Food Access Mapping project (Healthy FAM), Working Landscapes, the World Business Council for Sustainable Development, and the Z. Smith Reynolds Foundation.

The project also engaged formally with 40 farms across more than 25,800 acres in North Carolina, northern California, Oregon, Virginia, and Wisconsin.

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National project partners

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About the Contributors

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About Croatan Institute

Croatan Institute is an independent, nonprofit research and action institute whose mission is to build social equity and ecological resilience by leveraging finance to create pathways to a just economy. Based in Durham, NC, with an extended presence across the South, in the Mid-Atlantic, the Midwest, and the Northeast, and in Geneva, Switzerland, the Institute's interdisciplinary team of scholars, scientists, and financial analysts have developed a reputation for leading high-impact, place-based, and research-driven initiatives by building relationships of trust with practitioners in the field and movements for social and environmental change. Since our launch in 2014, the Institute has collaborated with more than 150 organizations, including nonprofit organizations, farmers and land stewards, investor networks and foundation affinity groups, and government agencies. Croatan Institute works toward change by redirecting finance to support positive social and environmental impact, making finance more accessible for place-based practitioners and frontline communities, and fostering what we call the "magic in the middle" by working in unique ways between capital providers and communities. For more information about the Institute's programs, people, and publications, please visit croataninstitute.org.

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BACKGROUND AND INTRODUCTION

With growing concerns about soil loss and the decline of rural communities, agriculture presents both a set of challenges and a wide spectrum of solutions. In North America, agricultural practices account for two-thirds of soil degradation—more than any other region in the world. Meanwhile, rural areas in the United States, which are demographically older and socio-economically more distressed than the nation as a whole, are undergoing a steady depopulation. Rural farming communities are also facing a fresh wave of financial challenges, associated with extreme weather events and a rising tide of loan defaults and bankruptcies. In many rural places, farming is literally losing ground.

Amid these crises, a growing number of farmers are embracing more resilient, regenerative, organic, and agroecological farming strategies. Building upon best-in-class conservation practices, regenerative agriculture aims to work with natural systems to restore, improve, and enhance the biological vitality, carrying capacity, and ecosystem services of farm fields and forests. The benefits and outcomes of these practices include not only healthier soils but also enhancements in biodiversity, water quality, and more resilient rural landscapes. Supporting regenerative farms and the food, agricultural, and manufacturing businesses that work with them can have a significant impact on addressing the climate crisis. Regenerative farms sequester carbon through regenerative conservation practices and increase resilience to the recurring shocks of hurricanes, drought, and extreme weather volatility. Improved on-farm resilience contributes in turn to the wider resilience of rural places and regional food systems and value chains. Research is also increasingly exploring complex and compelling linkages between soil health and human health, by measuring the bio-nutrient density of foods grown from farms embracing regenerative, organic practices, and assessing the public health benefits associated with farming without synthetic chemical inputs.[1]

Emerging regional clusters of regenerative, organic agriculture in the Northeast, upper Midwest, and west coast, often known as "Organic Hotspots," have also been correlated with greater socio-economic benefits than conventional farming communities, including higher household incomes and lower poverty and unemployment rates.[2] As traction gains around these practices in more rural areas and farms transition away from large-scale, industrial agriculture, other states and rural communities can also begin to realize these benefits. Furthermore, by fostering healthier food systems and ecosystems, regenerative agriculture can enhance both landscapes and livelihoods, while narrowing the notorious rural-urban divides that characterize social, cultural, economic, and political dynamics across the nation.

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1 See David R. Montgomery and Anne Biklé, *What Your Food Ate: How to Heal Our Land and Reclaim Our Health* (New York: W. W. Norton & Company, 2022); Jeff Moyer et al., "The Power of the Plate: The Case for Regenerative Organic Agriculture in Improving Human Health," Rodale Institute, 2020; and David LeZaks and Mandy Ellerton, "The Regenerative Agriculture and Human Health Nexus: Insights from Field to Body," Basil's Harvest and Croatan Institute, 2021. Croatan Institute is currently collaborating with Nourish^{n}, the Bionutrient Food Association and MarketSquare on a two-year USDA Conservation Innovation Grant-funded pilot project developing a new digital marketplace where food from regenerative farms with specific nutritional qualities and ecological health attributes can be priced, bought, and sold.

2 Julia Marasteanu and Edward C. Jaenicke, "Economic Impact of Organic Agriculture Hotspots in the United States," *Renewable Agriculture and Food Systems*, February 2018.

This constellation of benefits associated with building both soil health and rural wealth through regenerative agriculture is what we at Croatan Institute have termed "soil wealth."[3]

Unfortunately, agricultural practitioners and value-chain businesses frequently lack access to the capital they need to support their transition to a more regenerative agricultural system. New and beginning farmers in particular may not have the credit or growing experience to qualify for financing from many conventional banks or agricultural lenders, and many traditional capital providers also do not understand the needs of small- to mid-scale regenerative farms or value-chain businesses. Therefore, capital providers often do not offer viable financing options that align with the imperatives of regenerative, organic agricultural transition or the long-term nature and benefits of conservation practices. Regenerative practices that build soil health, increase resilience, and decrease climate risks may take longer to impact an operation's profitability. Financial analysts and investment underwriters often fail to account for both the risks of conventional, industrial agriculture and the opportunities associated with regenerative, organic innovation, even though data and financial modeling are increasingly emerging on the cost benefits of regenerative, organic transitions.[4]

Nevertheless, a growing group of capital providers are beginning to develop a variety of flexible financing solutions for regenerative producers and value-chain businesses, across asset classes. These range from simple low-interest loans with more flexible repayment terms to more complex "integrated capital" stacks that bring together combinations of philanthropic grant funding, technical assistance, and flexible financing. Credit enhancements such as loan guarantees can be used to de-risk lending transactions. Impact investors, "Slow Money" lenders, and community loan funds have developed short-term bridge loans to help farmers participate fully in USDA conservation programs such as the Environmental Quality Incentives Program (EQIP). Fixed-income investors are explicitly seeking bonds with regenerative agricultural attributes, providing a secondary market for transactions as well.

Numerous farmland funds now explicitly target farmland acquisitions that involve converting conventional farms to regenerative, organic operations.

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3 Christi Electris, et al., "Soil Wealth: Investing in Regenerative Agriculture across Asset Classes," Croatan Institute, Delta Institute, and the Organic Agriculture Revitalization Strategy, 2019.

4 Analysts at Croatan Institute and Delta Institute developed one such model, "Financing Soil Wealth: Earnings and Resiliency with Regenerative Agriculture" (2020), a calculator available at https://github.com/DeltaInstitute/Financing-Soil-Wealth-Financial-Calculator.

Crowdfunding and peer-to-peer lending platforms are also providing individual investors with new opportunities to help finance regenerative agriculture.

However, there remains no central place for producers and landowners who are embracing regenerative agriculture and conservation practices to identify this kind of patient, flexible, and non-extractive financing. This project has consequently been designed to explore the feasibility of a place-based financing model that could potentially fill this gap—a model where farmers and entrepreneurs can connect with technical assistance and capital providers that value the social and environmental benefits associated with regenerative agricultural value chains. In the 2019 report "Soil Wealth: Investing in Regenerative Agriculture across Asset Classes," analysts at Croatan Institute and Delta Institute identified numerous financial mechanisms, instruments, and approaches that could be more aligned with regenerative agriculture, and one specific approach was rooted in a place-based financing district, which we now term Soil Wealth Areas.[5]

Building upon the success of other agricultural districts, such as conservation districts and farmland protection districts, Soil Wealth Areas are special purpose soil wealth improvement districts that can become magnets for investment in regenerative agriculture. Soil Wealth Areas are inherently place-based, meaning they integrate community-led organizations, producers serving regional markets, and local initiatives aimed to improve the ecological and socioeconomic conditions of a community or region into the decision-making and governance of the district. This embeds structures of place such as culture, heritage, social connection, and community dynamics into the operations and outcomes of Soil Wealth Areas. By being based in place, Soil Wealth Areas can be more responsive to the needs of local regenerative agricultural producers and entrepreneurs working in value chains, creating better financial conditions for more resilient regional food and agricultural systems.

This report summarizes the results of our assessment of the feasibility of developing such a place-based financing platform in four states across three regions with very different kinds of farming communities, agronomic conditions, and policy environments: North Carolina in the South, Northern California and Oregon on the West Coast, and Wisconsin in the upper Midwest. By exploring structures and stakeholder dynamics simultaneously in three different agricultural regions, we have been able to draw nationally relevant conclusions about place-based financing opportunities from the diverse dynamics within different parts of the country. The report also makes specific recommendations for implementing Soil Wealth Areas in each of the regions analyzed.

Because many investors and capital providers interested in regenerative agriculture often work across geographies, we also propose developing a Soil Wealth Capital Collaborative to educate financial institutions about opportunities within specific Soil Wealth Areas—and to help connect farmers and entrepreneurs within Soil Wealth Areas to those aligned capital providers. To expand opportunities for place-based financing beyond the geographies analyzed here, we also propose the development of a new Soil Wealth Community, which would serve as a national community of practice providing a forum for shared learnings from different regional experiences with place-based financing and a platform for the development of new Soil Wealth Areas in other places.

Before presenting these recommendations and proposals in further detail later in the paper, we first present our analysis and findings from each of the four regions.

5 Electris, et al., "Soil Wealth," 28. These districts have gone by various names, including "soil health improvement districts," "rural regenerative agricultural districts," and "regenerative organic agricultural districts" (ROADs). Based on stakeholder feedback during this project, we now propose calling them simply "Soil Wealth Areas," in order to highlight the multiple social, environmental, and economic benefits associated with building both soil health and rural community wealth through investing in regenerative agriculture.

A Note on "Regenerative Agriculture," Soil Wealth, & Conservation Practices

For the purposes of this report, we use a broad definition of "regenerative agriculture," rooted in the "Soil Wealth" report, based not on a narrow set of agronomic practices but on "holistic approaches to agricultural systems that work with natural systems to restore, improve, and enhance the biological vitality, carrying capacity, and ecosystem services of farming landscapes."[6]

As stressed above, we also prioritize the social dimensions of regenerative agriculture, such as rural economic resilience, social and racial equity, equitable and inclusive food systems, community wealth generation, right livelihoods, and the humane treatment of animals. We recognize that principles and practices associated with regenerative agriculture today often rely, without adequate acknowledgment, upon long-standing agronomic techniques of Indigenous peoples across the Americas and of Black agrarians and agricultural research scientists, such as George Washington Carver of the Tuskegee Institute's Agricultural Experiment Station.[7] Regenerative agriculture in the US also operates in the context of seeking to rebuild soil fertility in the aftermath of the extractive agriculture of the colonial and antebellum plantation systems in the South, the expropriation of Native American tribal farms and lands, and the transformation of diverse, perennial forests, grasslands, prairies, and native ecosystems on the American frontiers into conventional, industrialized farms focused on annual commodity crops and livestock production. The use of the term regenerative agriculture has exploded in recent years, and some businesses and farmers are rushing to market their products as "regenerative" in ways that may not correspond to our more holistic understanding of the social and ecological imperatives of soil wealth. Certain voluntary, third-party certification programs for regenerative agriculture are beginning to emerge, but there remains no universally recognized standards along the lines of the practice standards of the USDA's National Organic Program.[8] Even without clear consensus about its meaning, this report still uses the term "regenerative" in a broad and inclusive way to encompass a wide array of alternatives to conventional agricultural systems, such as agroecology, biodynamic agriculture, carbon farming, climate-resilient agriculture, conservation agriculture, and organic farming, among others.

6 Electris, et al., "Soil Wealth," iv.

7 The pre-Columbian use of biochar in the Amazon basin or multi-species intercropping by Indigenous farmers across Meso-America are just two of many examples of agroecological practices that prefigure regenerative "carbon farming." In the first Bulletin of the Tuskegee Experiment Station in 1898, Carver focused on the benefits of feeding acorns rather than corn to hogs and other livestock—a technique that many agroforestry enthusiasts either claim for their own or attribute to much later figures or movements such as J. Russell Smith, Australian permaculturalists, or European pastured pork producers. See http://archive.tuskegee.edu/repository/digital-collection/george-washington-carver/the-bulletins/gwc-bulletins-001/.

8 For example, the Regenerative Organic Alliance's framework for the Regenerative Organic Certified label requires following guidelines related to soil health and land management, animal welfare, and farmer and work fairness. For more information, see Regenerative Organic Certified Framework, at https://regenorganic.org/wp-content/uploads/2021/02/ROC_ROC_STD_FR_v5.pdf.

The body of research on regenerative agriculture continues to grow, highlighting the soil health benefits associated with specific farming practices in the field and across agricultural landscapes. These range from native tree and shrub plantings to promote biodiversity and sequester carbon, multi-species cover cropping, minimal soil tillage, livestock integration with perennial pasture management and rotational grazing, and use of compost applications to build soil organic matter. In terms of carbon sequestration and climate change mitigation, USDA NRCS has also identified a subset of their broader conservation practice standards as providing climate-related building blocks and benefits including:

- Conservation cover
- Conservation crop rotation
- Grassed waterways
- Herbaceous wind barriers
- Prescribed grazing
- Silvopasture establishment
- Riparian forest buffer
- Tree and shrub establishment

Many of these conservation practices can be implemented with support from USDA programs such as EQIP, the Conservation Reserve Program (CRP), and the Conservation Stewardship Program (CSP). As a core deliverable of this project, our team, in close consultation with project partners, have identified an even wider list of relevant NRCS practice standards that we view as most consonant with the principles and practices of regenerative agriculture. Although not meant to be a comprehensive list of Soil Wealth building practices, Appendix A presents both the NRCS climate-related conservation practices and this project's expanded list of conservation practice standards most aligned with regenerative agriculture. Among NRCS conservation practices, this expanded list merits high-priority consideration when it comes to conservation funding—and place-based financing coordinated through Soil Wealth Areas.

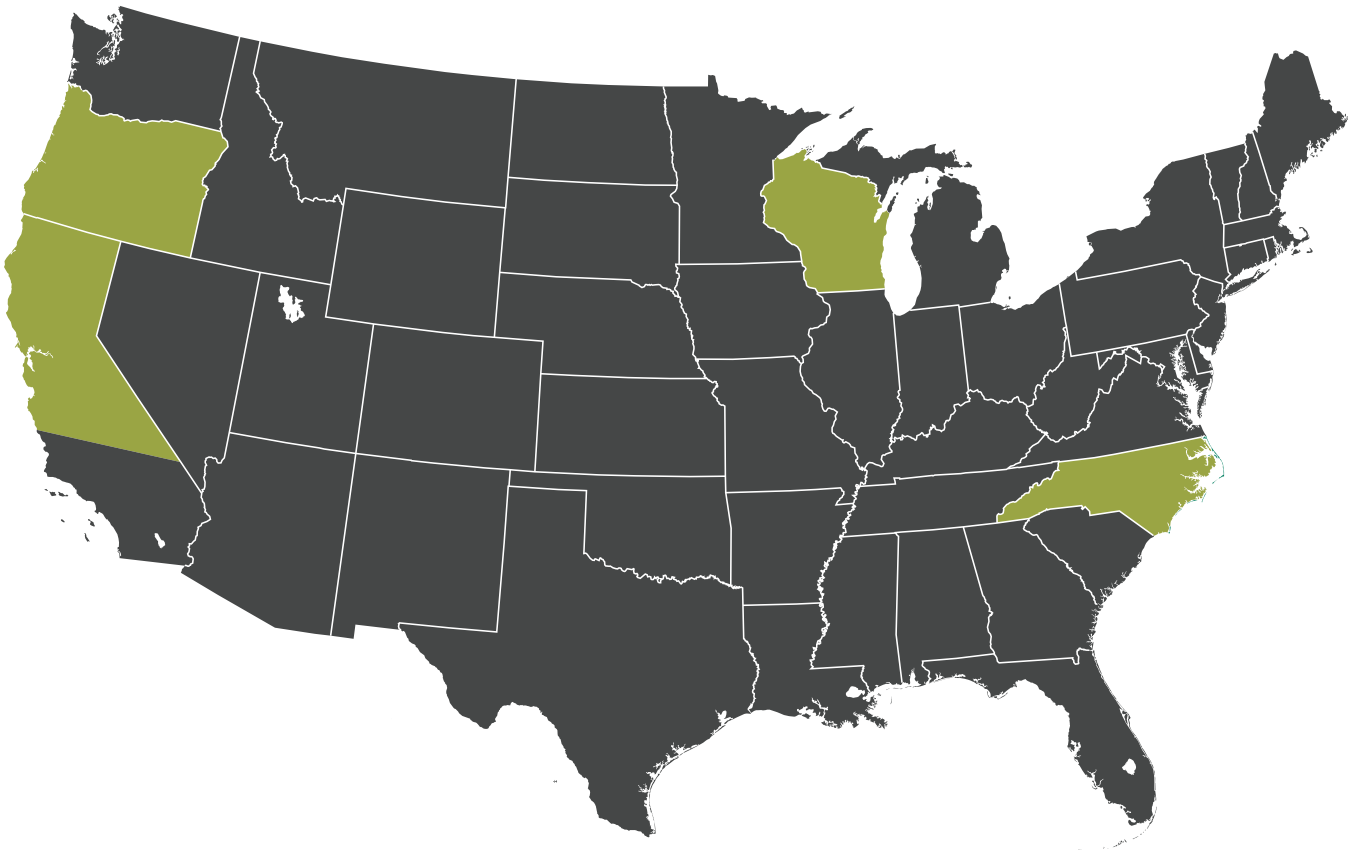
SOIL WEALTH AREAS: THE PATTERNS OF PLACE-BASED FINANCING

To understand the patterns of place-based organization that could be aligned with the financial objectives of Soil Wealth Areas, the landscape of existing districts in areas such as agriculture and economic development was analyzed in each geography.

The configuration of conservation districts was given particularly close attention, given the long-standing role they have played in farming communities across the nation for nearly a century since they were given federal impetus during the Dust Bowl years. As it happens, conservation districts have different roles and responsibilities in each state because the USDA Soil Conservation Service, the predecessor agency to today's NRCS, recognized during the late 1930s that local farmers, ranchers, land managers, and other stakeholders needed to play a leadership role if the erosion-fighting objectives of the 1935 Soil Conservation Act were to be met in specific places. Therefore, conservation districts generally have locally elected supervisory governance boards, and many also have the authority to issue local or state municipal bonds—an underutilized financial power to raise capital for conservation from the public debt capital markets. They embody a complex partnership between local places and the federal government that encouraged their formation, often intermediated by state agricultural authorities.

Conservation districts also go by different names in different places. In North Carolina, the state where the first voluntary conservation district was developed during the New Deal, Soil and Water Conservation Districts generally follow county lines, with one limited exception. In Oregon they share the same name of Soil and Water Conservation Districts, but there are nine more SWCDs than there are Oregon counties, with some straddling county lines, others representing only a limited portion of a county. In Wisconsin, conservation districts were absorbed into county government as professionally staffed Land and Water Conservation Departments in the early 1980s, overseen by publicly elected Land Conservation Committees at the county level. In California, Resource Conservation Districts (RCDs) are organized locally and regionally in a variety of different ways, with some following county lines, while others follow watersheds. Unlike in North Carolina, Oregon, or Wisconsin, RCDs do not cover the entire state, leaving some places in California without coverage by any local conservation district or authority. Thus, mapping potential place-based financing models to conservation districts, or the numerous other relevant districts we analyzed such as Agricultural Enterprise Areas in Wisconsin or Voluntary Agricultural Districts in North Carolina, is by no means simple or straightforward, as we describe in each section below.

We also reviewed the policy environment in each state for relevant land-secured financing mechanisms and state funding programs that might be aligned with regenerative agriculture, such as the California Department of Food and Agriculture's Healthy Soils Program, operated by the state's Office of Environmental Farming and Innovation. In each geography, we held focus groups and convenings with farmers, our place-based partners, and other regional stakeholders to understand their relationships and interactions with the districts and policies most relevant to their place—and to determine whether those configurations could serve as models for Soil Wealth Areas. Several of our formal farm partners and stakeholders serve as elected supervisors to their local conservation districts or officers in their state-level association of conservation districts, or otherwise involved in conservation districts at the state or local level.



The three focus regions where Soil Wealth Areas were explored for feasibility: the Southeast, upper Midwest, and West Coast.

Finally, within each geographic region and across the national project partnership, we repeatedly convened, surveyed, and interviewed investors and capital providers seeking greater exposure to opportunities to finance regenerative agricultural producers and value-chain businesses. Our aim was to understand the diverse array of financial structures, mechanisms, instruments, and approaches they used, the asset classes and geographies they targeted, and the social and environmental impact metrics they prioritized in their food and agricultural investments. In alignment with this project, investor outreach related to impact metrics included a complementary collaboration with the Global Impact Investing Network (GIIN)'s Navigating Impact initiative on sustainable agriculture, which drew on feedback from more than 200 stakeholders to identify 57 specific metrics within five impact areas, including climate resilience, ecosystem health, food system resiliency, human health, and social equity.[9] (See Appendix B for the full table of impact investment metrics, which serves as another core deliverable of this project.)

Among the wide diversity of investors included in this outreach were foundations, impact investors, financial advisers, high-net-worth individuals, Slow Money investors, family offices, farmland funds, bond buyers and fixed-income fund managers, private commercial lenders, private equity and venture capital funds, and numerous Community Development Financial Institutions (CDFIs) certified by the US Treasury Department, such as CDFI loan funds and community development banks and credit unions. In certain circumstances, after learning of specific financing needs

9 See Christi Electris, et al., "Navigating Impact Project Launch: IRIS+ Sustainable Agriculture Theme," GIIN, March 18, 2021; and The Navigating Impact Project: Sustainable Agriculture, GIIN, at https://navigatingimpact.thegiin.org/sustainable-agriculture/.

of farmers involved in the project in North Carolina, we brought capital providers and farmers together to pilot financial transactions, with the aim of formalizing lessons learned from them into the proposed Soil Wealth Areas. The financing that emerged during the project included a low-interest bridge loan for short-term working capital from Slow Money lenders and an unsecured land loan from a CDFI loan fund, de-risked with a private loan guarantee, for a conservation acquisition to support regenerative agroforestry practices. These pilot transactions ultimately unlocked more than $725,000 in flexible, no-interest or low-interest loan capital and crowdfunding donations for farmers involved in the project—which amounted to more than the project's federal funding from the USDA Conservation Innovation Grant itself.

To ensure that the specific concerns of farmers of color were incorporated into this modeling of Soil Wealth Areas, the project also convened a Working Group on Financing Farmers of Color and drew insights directly from a parallel Financial Health Investment Project that provided financial technical assistance to two pilot cohorts of 10 farmers of color in North Carolina.

The learnings from these various work streams, engagements with investors, and regional convenings of farmers and stakeholders have informed our recommendations for the configuration of Soil Wealth Areas and their coordination of capital and technical assistance for farmers and entrepreneurs within regenerative food, farming, forestry, and fiber value chains in the Southeast, Upper Midwest, and West Coast. We summarize our findings for each region in turn.

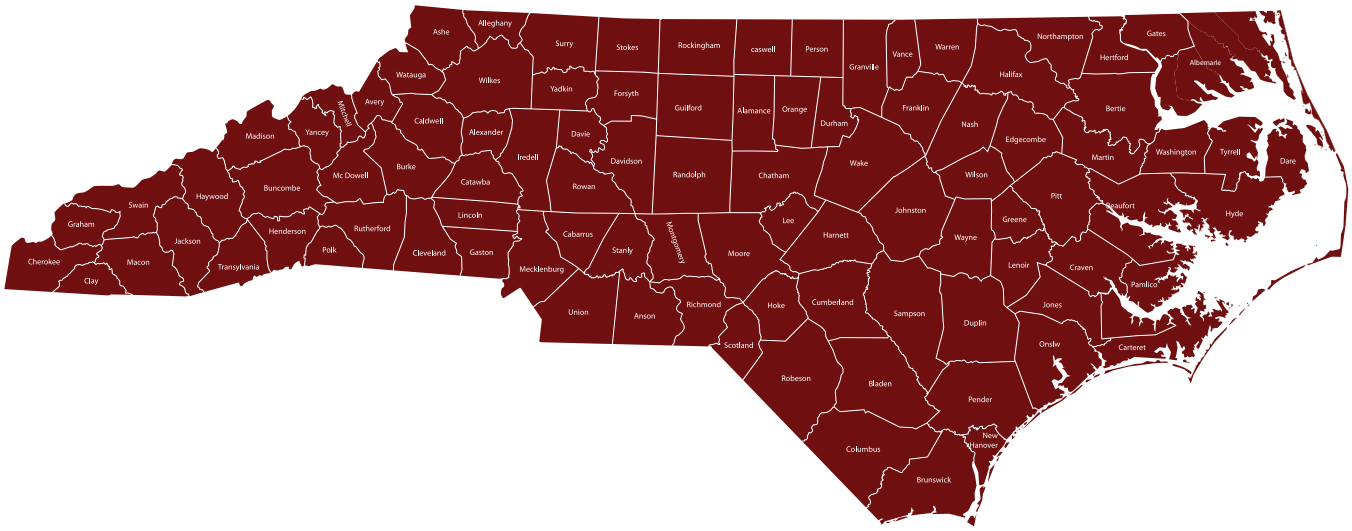
“Pilot transactions unlocked more than $725,000 in flexible loan capital and crowdfunding donations for farmers involved in the project—which amounted to more than the federal funding from the USDA Conservation Innovation Grant itself.”

THE SOUTHEAST: NORTH CAROLINA

As mentioned above, North Carolina saw the establishment of the nation's first conservation district, the Brown Creek Soil and Water Conservation District, in Anson County in 1937. Although initially based on local watersheds, Soil and Water Conservation Districts in North Carolina now align with counties, with the single exception of the consolidated five-county Albemarle Soil and Water Conservation District in rural northeastern North Carolina. In 1986, the state also developed one of the first statewide, legislatively enabled programs for farmland preservation districts, known as Voluntary Agricultural Districts (VAD)—which also is administered at the county level, along with a range of other agricultural services such as USDA Farm Service Agency (FSA), NRCS, and Cooperative Extension offices. Farmers are consequently accustomed to interacting with their county-level agricultural agents and officials, and districts are widely recognized ways of organizing agricultural programs in the state.

Despite this common administrative pattern, the challenge with organizing place-based financing districts in North Carolina at the county level is that there are so many of them. North Carolina has 100 counties, more than any of the other states under analysis here, including California, the most populous state in the nation with approximately four times as many people and a land mass three times greater than North Carolina's. Eighty of those counties are considered rural, according to the NC Rural Center, and with so many relatively small rural counties, farmers frequently find themselves farming across county lines. Indeed, it is not unusual for farmers working hundreds, if not thousands, of acres to find themselves farming fields in as many as five neighboring counties.

Farmers and landowners with land in multiple counties consequently face intense bureaucratic challenges when they seek to participate in conservation or farmland protection programs administered at the county level because enrollment in most USDA FSA or NRCS programs requires re-application with each county where farm tracts lie. Several North Carolina farmers and landowners we interviewed found the need to submit multiple applications to county-administered federal programs such as EQIP and CRP and even agricultural present-use value programs, which help to reduce property tax on farmland and forests, to be a deterrent to their more active participation in them. Even technical assistance providers working with farmers and landowners can find the task of meeting identical deadlines for their clients across multiple counties daunting. Additionally, the prospect of staffing so many county-based districts presents a major challenge for organizing Soil Wealth Areas along the lines of Soil and Water Conservation Districts, unless positions could be shared with existing county offices.

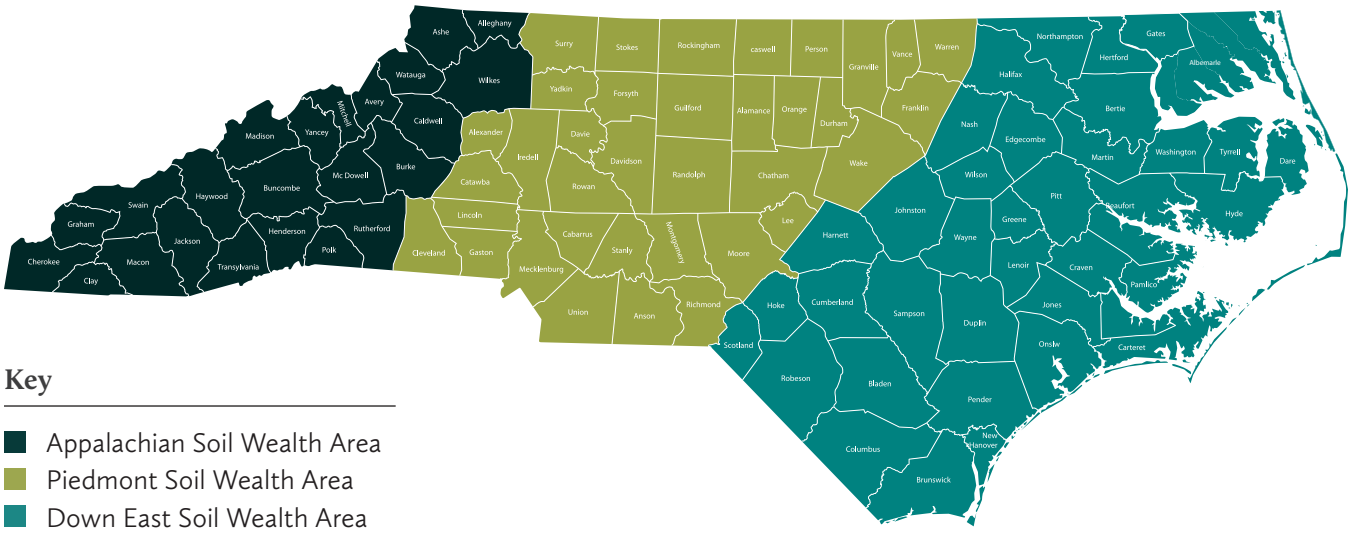


North Carolina's 96 Soil & Water Conservation Districts

Some policymakers have long recognized the limitations of administering programs for rural places at the county level, and this is one reason why our project integrated the perspective of multi-county, regional councils of government (COGs). In North Carolina many COGs overlay other important regional districts relevant to rural development, such as Economic Development Districts recognized by the US Department of Commerce or Area Health Education Centers working on community health and food and nutrition programs for rural populations. When asked about the geography of their value chains, farmers and food system entrepreneurs repeatedly stressed the importance of their connections to regional markets and networks extending across county lines. Indeed, it was precisely such a regional approach to value-chain investing that shaped the initial Organic Agriculture Revitalization Strategy's pilot project in a 28-country region in northeastern North Carolina and the Healthy Food Access Mapping project (Healthy FAM), which has also informed this project's understanding of the need to forge closer connections between the development of equitable food systems and ecological farming systems.[10]

Because farmers and place-based partners participating in this project embraced a multi-county approach to financing regenerative value chains and food and farming systems, the configuration proposed for Soil

10 "Organic Opportunities: Investing in the Expansion of Organic Food and Agriculture in Northeastern North Carolina," Organic Agriculture Revitalization Strategy and Croatan Institute, March 2018; Gabriel Cumming, Sophie Kelmenson, and Carla Norwood, "Local Motivations, Regional Implications: Scaling from Local to Regional Food Systems in Northeastern North Carolina," *Journal of Agriculture, Food Systems, and Community Development* 9(A), 2019; and Upper Coastal Plain Council of Governments, "Understanding and Improving Regional Healthy Food Access in the Upper Coastal Plain Region of Eastern North Carolina," Healthy FAM, 2021. For more information on the Healthy FAM Project, see https://healthy-food-access-mapping-ucpcog.hub.arcgis.com/, and Anna Aspenson, "Mapping Home Grown Solutions for Healthy Food Access," Croatan View, February 2022.



North Carolina Soil Wealth Areas

Wealth Areas in North Carolina is now moving forward on a regional basis, aligned with the three historical, biophysical regions of the state. Each region has its own distinctive landscapes, socio-economic dynamics, and farming traditions: from the sandy coastal plain of eastern North Carolina, to the clay-dominated rolling hills of the Piedmont, to the more mountainous terrain of Appalachian western North Carolina. Although these three Soil Wealth Areas will likely be housed under one statewide entity, each Soil Wealth Area would be led and governed in diverse, equitable ways by local farmers and place-based partners from each region. It would consequently be better equipped to meet the specific financing needs of the agricultural producers and food system entrepreneurs in their respective places.

The diverse set of farmers involved in the North Carolina project cohort highlighted a variety of financing needs that conventional financial institutions and the Farm Credit system were repeatedly not providing growers.

The North Carolina farmers that the project engaged with most directly represented two broadly different types of operations: diversified, multi-generational, mid-size farms with hundreds of acres under management, on one hand, and smaller family farms operating on less than 100 acres, on the other. Several of the mid-size farms were certified organic dairies affiliated with project partner Organic Valley, but with a diverse array of other complementary operations, such as on-farm feed mills, non-GMO and organic grains, local produce, and other livestock such as grassfed beef, pastured poultry, or dairy goats. The smaller-scale farms, operating on less than 100 acres, tended to be earlier-stage Black farmers, several of whom have recently reclaimed family land for farming in more ecological ways, whether through certified organic market gardening or agroforestry.

Regardless of scale, several themes emerged repeatedly across the project for many North Carolina farmers. They included managing development pressures,

addressing succession issues, identifying more competent technical assistance providers, and securing better forms of financing with more favorable, flexible terms aligned with the long-term imperatives of regenerative farming systems. In certain situations, as a way of piloting the kinds of transactions that the Soil Wealth Areas would coordinate in the future, Croatan Institute helped to connect individual farmers with technical assistance and capital providers. Indeed, during the project, three North Carolina farms accessed more than $225,000 in private capital, through crowdfunding, no-to-low-interest loans, and loan guarantees, and in one case, a short-term loan helped bridge a financing gap that enabled the farmer ultimately to access $500,000 in long-term financing from the US Small Business Administration (SBA). Other North Carolina farmers involved in the project were awarded funding for long-term conservation easements from state and federal sources and public-private partnerships with non-governmental organizations such as land trusts and Croatan Institute. However, for farmers to embrace regenerative agriculture practices more fully in their operations, we found repeatedly that many needed to address various first-order financial or legal issues related to business planning, succession and estate planning, excessive leverage, or under-capitalization, so the coordination of appropriate forms of financial and agronomic technical assistance has become an important component of Soil Wealth Areas, as we have piloted and proposed them.

Despite these commonalities, it should come as little surprise that the financial challenges and solutions that presented themselves differed substantially between the midscale farms, which were predominantly owned by multi-generational White farming families, and the smaller-scale Black farmers involved in the project. After all, the long-standing and well-documented patterns of discrimination and land loss that Black, Indigenous, and other farmers of color have historically faced, with both public agricultural programs and private financial institutions, have created longer-term structural social and economic disadvantages than those that financially vulnerable midscale farming families face.[11] Consequently, we analyze the financial needs of each group in slightly different ways.

11 See the multi-part series by Bill Spiegel, "Black Farmers in America Face Difficult Odds: Racism, Prejudice, and Limited Opportunity Have Plagued Black Farmers for Years," *Successful Farming*, January 6, 2021; and Nathan Rosenberg and Bryce Wilson Stucki, "How USDA Distorted Data to Conceal Decades of Discrimination against Black Farmers," *The Counter*, June 26, 2019.

The Challenges of Financing Midscale Agriculture

According to the most recent USDA data, the average size of farm operations in North Carolina is 184 acres, and the mid-size farms engaged in the project were larger than that statewide average, generally operating across several hundred acres.[12] (Only one North Carolina organic dairy's operations stretched across more than 1,000 acres, but that was through leasing additional ground. Farmland ownership for the operator still remained under 1,000 acres.) Most of the mid-size growers were comfortable with borrowing to finance their operations, but several had reached credit limits with their conventional banking institutions and agricultural lenders. And few of their lenders, except for one CDFI loan fund, were reported to have any real appreciation for the economics of regenerative, organic operations. And in one case, a mid-size farmer reported having an extremely negative experience with a purportedly "sustainable" farmland investor that had purchased substantial acreage from their family farm and then made them tenants on their former farmland, only to sell the land to another high-net-worth investor who subsequently raised rents to levels over twice the market rate. Soil Wealth Areas would aim to educate farmers and entrepreneurs more fully about the risks associated with these kinds of investors, and to add a layer of vetting to ensure greater mission alignment between capital seekers and capital providers in ways that support regional resilience, equitable food systems, soil health, and community wealth. This feasibility phase provided experimental space to pilot a limited number of these kinds of capital collaborations between farmers and more aligned investors.

One of the project's farm partners, Bender Farms, a second-generation, 286-acre family farm owned by Jeff and Lisa Bender in Warren County, North Carolina, provides a quintessential example of the challenges of midscale agriculture in NC, indeed, across the US. Over the last decade and a half, Bender Farms has transitioned away from its origins as a small dairy farm to a more diversified operation, focused on catering to local and regional markets interested in healthy produce and open-pollinated, heritage, and other non-

12 "2021 State Agriculture Overview: North Carolina," USDA, NASS, 2022.

GMO grains. They added a small-scale, on-farm feed mill to sell non-GMO feed blends to livestock growers concerned about GMOs, but unwilling or unable to pay a higher premium for certified organic feed. The farm has also been an anchor supplier of a local produce food hub in the county, operated by one of this project's place-based partners, Working Landscapes. The food hub, known as ByWay Foods, aggregates and processes locally grown vegetables for institutional buyers, such as public school systems, which require compliance with Good Agricultural Practices (GAP). Consequently, Bender Farms' shift to growing produce for the food hub required GAP certification and investments in on-farm cold storage, which it financed through a special infrastructure investment program coordinated through the Center for Environmental Farming Systems at NC State University and the Natural Capital Investment Fund, a regional CDFI loan fund then affiliated with The Conservation Fund, now an independent CDFI known as Partner Community Capital.

However, when ByWay Foods had to temporarily close for a major renovation and expansion a couple years ago, one of Bender Farms' primary markets for its produce suddenly contracted, forcing it to find other buyers and give even greater priority to grains and the feed mill. Unfortunately, due to wet weather conditions that hampered many soybean farmers in late 2020, the mill was forced to source beans from the non-GMO and organic market during a time of particularly tight supply. Through a series of site visits and consultations, our team gradually came to understand that the farm also needed to make a new round of investments in their milling equipment. However, their lenders were not in a position to extend additional credit, and the farm was dealing with a looming succession challenge as the husband-and-wife owners approach retirement age. While the Benders had no real desire to sell their farm, the recurring challenges of farming at their scale made them willing to countenance offers, especially with no clear successor in the family to take over the operations. The Benders were energized by the prospect of farming with more regenerative practices such as cover cropping, minimal tillage, and broader conservation practices along field margins, riparian buffers, and woodlands, but finances and time had become major limiting factors for them to consider longer-term strategies for conservation and stewardship.

After discussing various financial options with their most aligned creditor, Croatan Institute introduced Bender Farms to the Slow Money North Carolina peer-to-peer lending network to explore the feasibility of a short-term bridge loan to help the farm get through their short-term challenges—and to serve as a demonstration transaction for the North Carolina Soil Wealth Areas. As a long-standing value-chain partner, Working Landscapes joined these discussions with the prospective lenders. Ultimately, a group of individuals in the network, which historically was more accustomed to making small loans to beginning farmers and food entrepreneurs, agreed to step forward to make one of the larger and more complex series of loans in the organization's history. The loans involved nine low-interest notes totaling $50,000, each with slightly different terms, depending on the expectations of the lender. Some of the lenders voiced concerns that the scale of Bender Farms and the risks associated with a farm of their size—the largest farm the group had ever financed in North Carolina—merited a different set of impact investing expectations than traditional Slow Money.

For the Benders, managing the repayment of multiple notes at varying terms with different private, peer-to-peer lenders was clearly not the most efficient way to access capital at such a scale. Yet the Slow Money loans provided the farm with critical working capital to weather temporary setbacks and put them in a stronger position to qualify the following year for a much larger, longer-term SBA Economic Injury Disaster Loan. This has dramatically strengthened the financial foundations of the farm, and the Benders are now in a better position for longer-range thinking about the farm's future. To support their interests in regenerative agriculture, they are engaging in a new Soil Health Partnership of local farmers being coordinated by Working Landscapes with support from a major grant from the USDA Climate-Smart Commodities program. The participating farmers are working with an agronomist on cover-crop trials, lower-tillage practices,

and new soil testing protocols to assess soil health with more complex indicators related to microbiology and mineralization. In addition to expanding the non-GMO feed mill, Bender Farms is also now serving as a regional distributor for cover-crop seeds. Jeff and Lisa Bender are also weighing a variety of options for a longer-term succession plan that they now hope will involve placing a conservation easement on the farmland and identifying a mission-aligned purchaser who would keep the farm in regenerative agriculture over the long term.

For mid-size farms where succession planning is less uncertain than in the Benders' situation, more classic forms of conservation finance like easements can be useful tools to deepen the regenerative attributes of a farm's operations, or at least provide the financial security to do so. For example, one of the grass-fed, organic beef and dairy farms affiliated with project partner Organic Valley, turned to a local land conservancy, Three Rivers Land Trust, to place a permanent conservation easement on 410 acres of family farmland in Iredell County, North Carolina. The eight-generation farm is in an area north of the Charlotte metropolitan area that is subject to immense development pressure as most farms in the central Piedmont of North Carolina are. Indeed, after identifying more than 730,000 acres of North Carolina farmland converted to development during the first decade and a half of the 20th century, the American Farmland Trust gave the state a Farmland Threat Score of 99 out of 100. Only Texas, a much larger state with substantially more available farmland, saw a greater number of acres converted over the same period.[13]

The financing of the easement for this particular organic cattle farm came from the North Carolina Department of Agriculture's Agricultural Lands Easement Program, a collaboration with USDA NRCS, and the North Carolina Agricultural Development and Farmland Preservation Trust Fund, a highly competitive annual funding pool. Although the farm was fortunate to be awarded funding for the purchase of a conservation easement earlier this year, easement funding in the state remains challenging to access at levels needed to stem the tide of farmland conversion to non-agricultural use. During the project several land trusts and conservation organizations working in North Carolina reported that limited local, state, and federal funding for easements, the highly competitive environment, and the long waiting times to access awards had started to become disincentives to pursuing them. Farmers and conservation groups alike expressed a desire to see larger pools of funding available to purchase development rights from farmers and to do so on shorter timelines. While donating the value of easements may be a compelling tax strategy for wealthy landowners, farmers operating with thin margins and large farm mortgages often lack the income and free cash flow needed to take full advantage of the potential tax benefits associated with donating the residual value of development rights that conservation organizations are not able to purchase from them outright. Soil Wealth Areas could deliberately pursue additional philanthropic pools of easement funding, but ultimately conservation easements alone do not guarantee that the farmland will be managed regeneratively without specific restrictions related to conservation practices aligned with regenerative agriculture.

In other cases, though, state and federal conservation programs can certainly be leveraged to support the implementation of conservation practices aligned with regenerative agricultural outcomes. The case of Miss Grace Farms, a 390-acre constellation of family farmland and forests straddling Duplin and Lenoir Counties in eastern North Carolina, is illustrative of some of the opportunities associated with using public conservation finance as part of a wider regenerative land management transition. Miss Grace Farms have long been passively managed by non-operating family members using a combination of conventional forestry and commodity farming. Without any written plans for forest stewardship, the family has followed a common blueprint for managing their woodlands since the late 1980s: planting single-species loblolly pine plantations over clearcut land, with the aim of clearcutting again after a 10-to-15-year cycle of pre-commercial thinnings. Approximately 100 acres of

13 J. Freedgood, et al., "Farms under Threat: The State of the States," American Farmland Trust, May 2020.

open cropland have also been leased out annually to conventional tenant farmers to grow commodity grains such as soy, wheat, and corn. In recent years, however, family members have been eager to change direction toward conservation and more active management strategies that rebuild soil health, sequester carbon, create biodiversity and wildlife habitat, and potentially integrate the farmland base into regional food systems by collaborating with operators aligned with regenerative practices. A first phase of soil analysis from a regenerative agronomist coordinated by Croatan Institute confirmed what was readily visible on initial site visits: that soil health and organic matter were exceptionally low on the cropland, and nutrient runoff from synthetic chemical inputs was impairing the surrounding watersheds.

As part of this initiative, we began exploring a wide range of potential scenarios for transitioning the cropland to more regenerative conservation and the forestland to a more diversified, uneven-aged woodland, mixing native hardwood and softwood species. However, Miss Grace Farms exemplifies the dilemmas many mid-size landowners face when their farms and forests straddle county lines. In this case, only three miles separate the two main historic family farm tracts situated on either side of the small town of Pink Hill, North Carolina, but because one farm is in Duplin County and the other is in Lenoir County, the landowners must go to each county to apply for identical programs. Curiously, one of the farms situated entirely in Duplin County is considered by USDA FSA as a Lenoir County farm tract because one small corner severed from the original farm had historically lain in Lenoir. This same county line also happens to divide two different NRCS team service areas, creating initial confusion between USDA FSA and NRCS staff when it came time to determine which NRCS team would review and approve potential conservation plans for participation in programs such as the Conservation Reserve Program. At this farm, the landowners must contend not only with two different counties but also with two sets of USDA staff, two different Soil and Water Conservation Districts, and two different watersheds. Because the farmland and forests straddle both the Northeast Cape Fear and Neuse River basins, the potential credits associated with any stream or wetland restoration would need to be divided between each watershed, limiting how much restoration work could be financed through traditional mitigation banking strategies. While none of these boundary-line issues is insurmountable, it does require persistence and patience on the part of USDA representatives, farmers and landowners, and technical service providers trying to assist their clients. Designing Soil Wealth Areas in NC at a broader regional, rather than a county or watershed, level can help farmers and landowners avoid some of these boundary-line challenges.

To explore alternative approaches to forest management at Miss Grace Farms, our team at Croatan Institute connected the landowning family to North Carolina registered foresters with experience in conservation forestry approaches. (The family's long-standing forester admitted never having enrolled a single client in a conservation program of any sort.) One of these more conservation-minded foresters was a member of the Forest Stewards Guild who helped the family finalize a revised forest stewardship plan. The second one has worked regularly on conservation forestry with a regional land trust and helped the family identify a small logger willing to work within the parameters of a more sustainable harvest plan, after the conventional forester had initially advised the family to do a larger-scale harvest in order to attract bids from loggers. Most loggers in eastern North Carolina's woodbasket region work almost exclusively on large tracts, clearcutting with large equipment, often purchased with highly leveraged capital investment. This pressure toward economies of scale pushes most loggers toward clearcutting along "straight lines" that can have detrimental impacts on wildlife, the landscape, and forest ecosystems. Nevertheless, most conventional foresters on the Coastal Plain guide their clients to use these even-aged silvicultural practices and rely on loggers that prefer, for efficiency's sake, working in monoculture pine plantations rather than more naturally regenerated forest stands.

This is one reason why Soil Wealth Areas need to provide a clearinghouse for farmers and landowners to connect not only with more aligned financing sources but also with technical assistance providers that understand the opportunities associated with regenerative conservation approaches, whether they be agronomists, foresters, attorneys, or operators. Indeed, for many of the diversified organic dairies involved in the project, specialized technical assistance related to regenerative pasture management, legal and financial succession planning, conservation easements, and market opportunities associated with added-value production and regenerative practices, labeling, and certification was repeatedly cited as a key need in addition to the capital itself.

Without such technical assistance, navigating conservation finance opportunities would have been challenging for Miss Grace Farms to do on their own. In addition to changing their forest management strategies, the family is now also exploring and experimenting with other USDA conservation programs. They have enrolled three fields of a 16-acre tract of open cropland into the Conservation Reserve Enhancement Program (CREP). This involves a 15-year contract with USDA FSA to implement conservation practices involving native hardwood tree planting and a 30-year conservation easement with the NC Department of Agriculture. Participating in this program will help Miss Grace Farms sequester carbon, improve water quality of an adjacent pond, increase biodiversity, and enhance the surrounding rural viewshed with a diverse, arboretum-like woodland that will be delivering ecosystem services for decades to come and for future generations of the family. Already in the first year of fallowing the fields according to CREP requirements, native wildflowers and hardwoods have naturally started regenerating on what was formerly a tilled-over soybean field, creating a far more dynamic, biodiverse interface between the historic farmland and adjacent forests. More active forest stewardship, whether financed through more sustainable, market-based forest management strategies or federal-state partnerships such as CREP, have whet the family's appetite for more opportunities to pursue regenerative conservation strategies across wider acres of their landscape. The family now has multiple generations involved in consultation and decision-making about the farm's future.

Whether actively managed by resident owner-operators or stewarded by families from a distance, mid-size farms with hundreds of acres of land need access to both technical assistance and financial solutions to help them invest in the transition to longer-term regenerative practices or to deepen the regenerative features of their operations and land management strategies. By cutting across bureaucratic county lines, Soil Wealth Areas working at a more regional level can help educate and connect farmers and landowners to precisely these kinds of services.

Financing Farmers of Color

Navigating the complexities of conservation finance can be even more daunting for farmers of color that have experienced long-standing patterns of land loss and well-documented discrimination within agricultural assistance and lending programs. It was an eastern North Carolina farmer, Timothy Pigford, who filed the historic *Pigford v. Glickman* class-action lawsuit, which had alleged racial discrimination by the USDA against Black farmers. In 1999 *Pigford* became the largest civil rights settlement in US history, and despite its efforts to remedy past patterns, recent reports on fair lending by the United States Government Accountability Office (GAO) have repeatedly stated that women and minority farmers and ranchers, including members of Indian tribes, still receive a disproportionately smaller share of farm loans, agricultural credit, and conservation funding compared to other agricultural businesses.[14]

In order to ensure North Carolina Soil Wealth Areas are designed to address these capital access obstacles, this project engaged directly with several place-based organizations led by Black or Indigenous people of color and with farmers of color as formal partners. We also convened a working group on financing farmers of color with BIPOC representatives from eight partner organizations. This working group met monthly during the project period to focus on the specific financing needs of BIPOC land stewards and entrepreneurs, particularly in the South.

One of the farm partners and working group members informing this work was Oliver's Agroforest LLC, a 40-acre agroforestry farm in southern Wake County, North Carolina, that has been in the same family since the late 19th century. Like many farmers of color involved in the project, the farm's current family manager, Olivia Watkins, has reclaimed a more active role in the stewardship of her family's farmland, which had transitioned over the last century from an historic

14 Michael E. Clements, "Financial Services: Fair Lending, Access, and Retirement Security," Statement for the Record to the Subcommittee on Oversight and Investigations, Committee on Financial Services, House of Representatives, GAO-21-399T, February 2021; GAO, *Agricultural Lending: Information on Credit and Outreach to Socially Disadvantaged Farmers and Ranchers Is Limited*, GAO-19-539, July 2019; and GAO, *Indian Issues: Agricultural Credit Needs and Barriers to Lending on Tribal Lands*, GAO-19-464, May 2019.

family homestead to a diverse native forest stand that earlier generations harvested periodically for timber. Before becoming a steward of her family land in North Carolina, Watkins worked in production agriculture for six years at Kahumana Organic Farms in Hawai'i and Soul Fire Farm in New York, and in 2017 she also co-founded Black Farmer Fund to invest in Black agricultural systems in the Northeast. She moved to North Carolina to pursue her MBA in close proximity to her family's land, which sits just outside the rapidly growing Research Triangle region of Raleigh, Durham, and Chapel Hill. During the project Oliver Agroforest's forest management plan was updated to integrate more regenerative agroforestry practices, including a shitake mushroom enterprise Watkins had integrated into the woodland.

Financing needs were identified for numerous infrastructure improvements at the farm, including an access road, a barn, and a renovation of the historic homestead. Unlike many of the mid-size family farms analyzed above, Oliver's Agroforest had little interest in obtaining mortgage debt on the family's land to finance the farm's operational transition. The farm did receive some offers for low-interest Slow Money loans, but in contrast to Bender Farms, the benefits of receiving small peer-to-peer loans were not worth the costs of managing them, even though the debt was unsecured and low-interest. Instead, Oliver's Agroforest successfully raised more than $55,000 through a crowdfunding campaign on GoFundMe. Although the capital contributions were gifts, GoFundMe is not free. The farm did have to pay the transaction costs associated with using such a for-profit platform, and since Oliver's Agroforest is organized as a limited liability company, not a tax-exempt nonprofit, donors were not accorded the benefits of tax deductions on their contributions. Given the tragic history of Black land loss, the prospect of encumbering securely titled family land with a mortgage lien naturally gives one pause. But the case of Oliver's Agroforest also highlights how Soil Wealth Areas, organized as a nonprofit, could serve as an alternative mechanism for intermediating tax-deductible contributions or grants on behalf of farmers, BIPOC or otherwise, who are seeking donation-based funding for projects with demonstrable social, environmental, or other charitable purposes.

With support from several philanthropic funders, including Globetrotter Foundation and the #NoRegrets Initiative, the 11th Hour Project of The Schmidt Family Foundation, and the Nathan Cummings Foundation, Croatan Institute has also piloted a Financial Health Investment Project with two cohorts of North Carolina farmers of color to provide the kind of financial technical assistance that Soil Wealth Areas aim to integrate into their operations. This "FinHealth" technical assistance provides both group-based and individual coaching to farmers of color on foundational issues of financial literacy, the separation of farm finances from personal household finances, financial and business planning strategies, and other techniques to assess and enhance a farmer's investment readiness. With more specific understanding of a farm's financing needs, the FinHealth team can then educate farmers about appropriate resources and capital sources and to facilitate connections to potential capital providers.

Rural Beacon Initiative was one of the first FinHealth cohort members to leverage the financial technical assistance into a major capital collaboration that financed the conservation acquisition of a family farm in the historic Free Black community known variously as Free Union and Piney Woods in Martin County, North Carolina, the childhood home of Bishop Rev. Dr. William J. Barber, II, of the Poor People's Campaign. Rural Beacon is an entrepreneurial rural development organization founded by Bishop Barber's oldest son, William J. Barber, III. The family farmland in question, known as the Vera Brown Farm, had been held in heirs property—a complex legal limbo where property is passed along in the legal probate process to multiple descendants through the laws of inheritance without clear testamentary instruction in a will about its disposition. While by no means confined to minority landowning families, heirs property is a common phenomenon in Black communities because of the long-standing distrust many Black families understandably have toward rural courts and legal systems that have repeatedly discriminated against them. Collective decision-making among multiple heirs, some of whom

may have little-to-no relationship to the property, can create particular challenges for conservation and land stewardship.

In this case, extended family members had put up for sale on the open market a 52-acre tract of farmland and forests held in heirs property. Over the years much of the land on the west and north sides of the community has been converted to large-scale, industrial pine plantations under corporate ownership by a paper company with a nearby paper mill, so family members and the community were anxious to avoid losing the property. An initial family effort to purchase the property with financing from a North Carolina-based CDFI did not work out. In order to secure the property before an outside buyer stepped in, Croatan Institute worked closely with Rural Beacon to develop various scenarios for a conservation-oriented acquisition that fit with the vision that Rural Beacon had for the farm—as an educational "sustainability hub" to demonstrate opportunities for rural development, regenerative agroforestry, and regional food production. Our team identified several other potential financial partners for the project, including Slow Money North Carolina and Foodshed Capital, a CDFI based in Virginia, which has developed an innovative Black Farmer Equity Fund with a reparative lending framework providing low-to-no-interest loans and flexible repayment terms to farmers of color. After conducting site visits and due diligence through the FinHealth technical assistance, Croatan Institute agreed to offer Foodshed Capital a loan guarantee from the Croatan Fund for Recovery and Resilience on 10 percent of the first loan in the transaction. With that guarantee and a preliminary commitment from Foodshed Capital, Rural Beacon secured an option to purchase the property in order to take the listing off the market for a period of three months to put together the full acquisition financing package.

Experimenting with the kind of capital collaboration that the Soil Wealth Areas ultimately aim to replicate, the four groups—Croatan Institute, Foodshed Capital, Rural Beacon Initiative, and Slow Money North Carolina—held several educational sessions together with potential funders. Having learned from Bender Farms about the challenges borrowers faced of managing multiple peer-to-peer notes, the collaboration agreed to direct all potential lenders to Foodshed Capital and any potential donors to Croatan Institute, which established a restricted fund to support the regenerative conservation features of Rural Beacon's

vision for the farm. After these sessions, Foodshed Capital agreed to make its largest loan to date, and its first land loan in North Carolina, to finance Rural Beacon Initiative's acquisition of the Vera Brown Farm. Rural Beacon exercised its option to purchase and closed on the property in April 2022. Held in secure title, Free Union Farms, as the project is now known, is moving forward with planning for an ambitious agroforestry farm that includes a revitalized historic pecan grove, a market garden for the community and the wider regional food system, a seed sanctuary managed with the Alliance of Native Seedkeepers, a forest management plan that reflects a more dynamic approach to forest stewardship, and eventual enrollment in relevant USDA conservation programs in order to support the implementation of conservation practices that are aligned with regenerative agroforestry.

For historically disadvantaged and underserved growers from communities of color, the FinHealth Investment Project cohorts will provide on-going laboratories for learning about the specific ways Soil Wealth Areas can be structured to provide equitable and culturally appropriate financing and technical assistance. Agriculture in the American South is inextricably intertwined with the legacies of land loss and slavery. People of color have repeatedly been the most impacted by predatory and discriminatory institutions, disparities in health, and inequities across food systems. Many BIPOC-led farms and food access initiatives in rural communities struggle with access to land, capital, markets, and infrastructure in ways that are qualitatively and quantitatively unknown to the vast majority of white-led farms and businesses. Consequently, an essential role of Soil Wealth Areas is to create a shared governance framework with place-based partners and to identify and vet financial intermediaries that are willing to provide patient, flexible capital, with non-extractive investment expectations. By sharing governance among farmers, entrepreneurs, place-based partners, and stakeholders, Soil Wealth Areas aim to overcome long-standing distrust in both government and financial institutions and to build long-term financial health and wealth rooted in place.

The implementation of Soil Wealth Areas in North Carolina would build directly upon learnings from these various experiences with the coordination of capital and technical assistance. With philanthropic support from the Z. Smith Reynolds foundation, Croatan Institute and place-based partners in each of the three proposed regional districts will be developing a framework for diverse, equitable governance of the statewide entity that would house the Soil Wealth Areas. With the collaboration of mission-aligned capital partners, we will also be expanding upon the initial kinds of transactions piloted during this feasibility phase—connecting farmers and value-chain entrepreneurs to capital and technical assistance providers with the support of de-risking mechanisms such as loan guarantees or other credit enhancements and technical assistance.

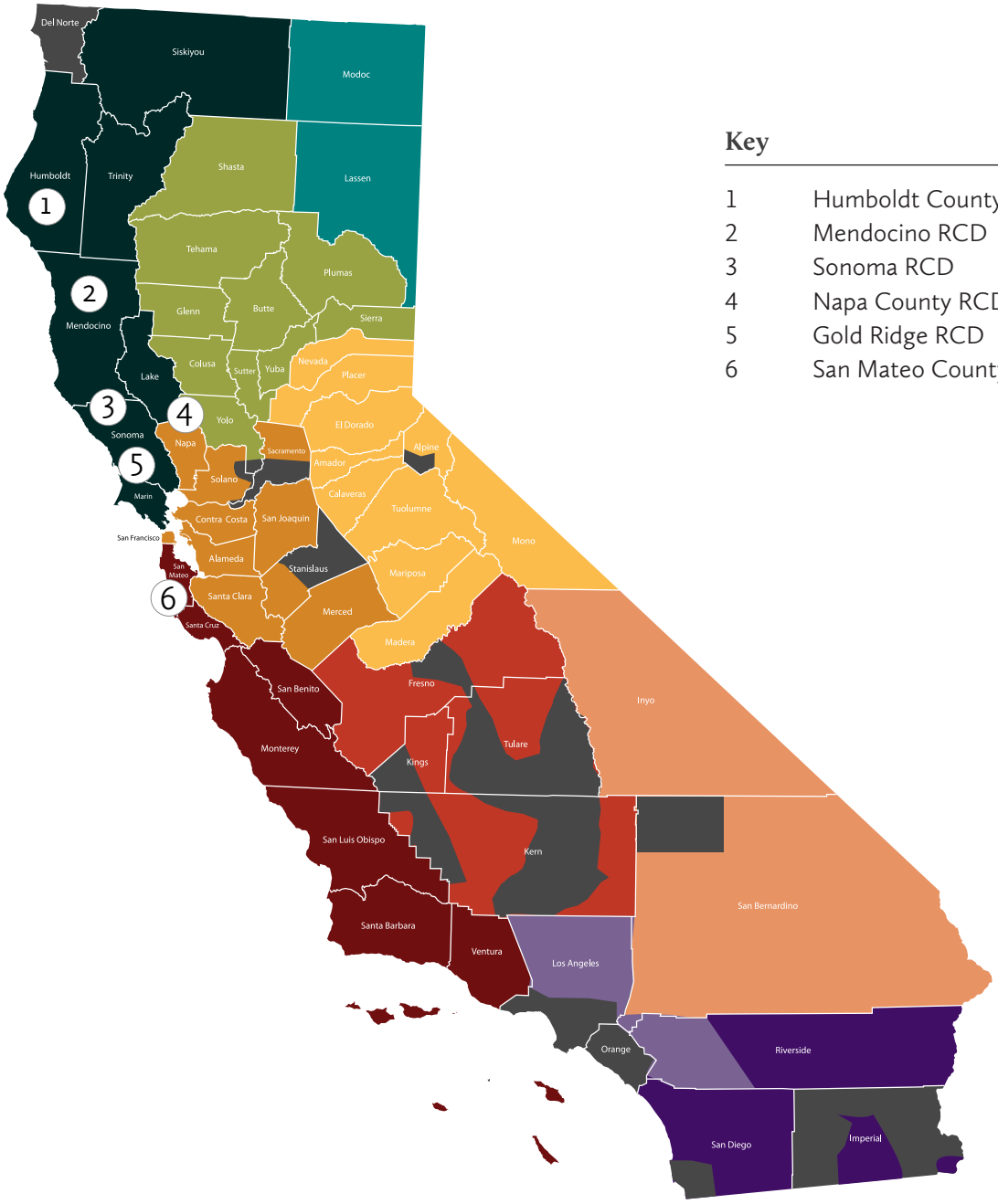
> **"The kinds of flexible capital and technical assistance coordinated by Soil Wealth Areas can stem the tide of land loss and finance resilience in rural communities of color."**
>
> William J. Barber, III, Rural Beacon Initiative and Free Union Farms

THE WEST COAST: NORTHERN CALIFORNIA AND OREGON

On the west coast, the feasibility of place-based financing was explored in two different states—northern California and Oregon—where project partners had extended footprints, particularly in dairy, grassfed beef, and permanent nut and fruit crops. Although they share a border and play home to dense clusters of Organic Hotspots, the culture of place in California and Oregon agriculture differs dramatically.

As mentioned earlier, conservation districts in each state diverge considerably in their organization. In Oregon there are nine more Soil and Water Conservation Districts than there are counties, leading to a patchwork of SWCDs that sometimes mirror counties, straddle them, or remain confined within only a portion of them.

In California, Resource Conservation Districts developed as special districts organized voluntarily by local groups. There has been no real effort to extend their territoriality across the entire state, leaving numerous places with no support from a functioning local RCD. Some RCDs in California follow county lines; others tend to follow watersheds or topographic features. The resources of RCDs also vary widely, leading many stakeholders to contrast high-performing, better resourced RCDs from those with lower capacity and resources. As in many other arenas, California is a paragon of "home rule," where well-organized efforts and experimentation at the municipal level can flourish, much more strongly than in Oregon, which has a modified variant of home rule, and in very sharp juxtaposition to North Carolina, which constitutionally rejects home-rule assertions of local control and autonomy. In short, American federalism also shapes American agriculture, so the patterns of place-based financing need to acknowledge the realities of a highly pluralistic policy landscape.



Map of California Resource Conservation Districts. The numbered RCDs were prioritized by partners initially for the focused exploration of place-based financing: Humboldt County RCD, San Mateo RCD, and the LandSmart RCDs including Gold Ridge RCD, Sonoma RCD, Mendocino RCD, and Napa County RCD.

California is also the largest and most diverse state for agriculture in the United States, making statewide generalizations about farm financing extremely challenging. This also leads to a far more fragmented sense of place than found in Oregon.

This basic distinction between opportunities for localistic experimentation in California and a greater sense of statewide cohesion in Oregon has shaped our findings and recommendations for potential configurations of Soil Wealth Areas on the west coast.

In California, local powers to establish special-purpose districts also open the door to the potential application of innovative forms of land-secured financing to support regenerative agriculture in places where farmers, citizens, and local leadership are willing to come together. The framework for applying land-secured, property-assessed financing to regenerative agriculture was first explored in "Soil Wealth: Investing in Regenerative Agriculture across Asset Classes."[15] Although many observers may associate land-secured financing with Property Assessed Clean Energy (PACE) programs, which have helped catalyze public-private partnerships to install residential and commercial rooftop solar arrays and other renewable energy projects, the underlying land-secured financing mechanism has historically been used for a wide range of public infrastructure projects, particularly in rural areas, such as roads, sewage and water, and lighting and utilities. The mechanism often involves assessing property owners within a designated district a special tax to create funds for infrastructure initiatives within a specific geography; often municipalities will float municipal bonds and use their proceeds to finance a pool of funding for qualifying projects. Bondholders would then be repaid over the life of the bond through property tax revenues derived from the special assessment. Fixed-income investors interested in investing in green bonds, regenerative agriculture, and food systems have repeatedly expressed a strong appetite for purchasing this kind of paper.

California is a ripe environment for experimenting with this application of land-secured financing because the state has a long-established policy framework for designating special assessment districts and issuing muni bonds accordingly. The Mello-Roos Community Facilities Act from the early 1980s emerged as a local end-run around California's notorious Proposition 13, which imposed property tax limits on local governments, restricting their ability to fund local initiatives through property tax increases based on property values. Mello-Roos built upon the traditional state legislation allowing for the creation of Special Assessment Districts in the California Municipal Improvement Act of 1913. In either case, local authorities or property owners in California can successfully petition for the establishment of such a community facilities district or special assessment district, and these two kinds of districts have become some of the most widespread forms of municipal financing in the state. Depending on the details of the kinds of farms or facilities that could be supported by such an intervention, a Soil Wealth Area in California could readily be established under either of these district designations.

In stakeholder convenings, however, few west coast participants were aware of the mechanics of this legal framework for establishing districts, and many farmers voiced doubts about the public's willingness to countenance a property tax assessment to support the financing of regenerative agriculture or value-chain businesses. Some participants involved in Open Space Districts reported familiarity with using Mello-Roos strategies in California but described them as frequently controversial. While some farmers and stakeholders in places such as Humboldt County were happy to entertain the idea and others in the Bay Area were content to keep the idea on the table, few project stakeholders in California viewed land-secured financing through these kinds of districts as a high priority.

Instead, the RCDs themselves—at least those that farmers considered to be high-performing—were repeatedly described as trusted place-based partners supporting farmers and local agricultural communities with a wide array of resources and technical assistance related to conservation, carbon farm planning, and other practices related to climate resilience. In the context of California's on-going climate-related crises of wildfires, water, and drought, farmers expressed strong interest in opportunities to build on-farm resilience. Since 1939, RCDs in California have supported voluntary natural resource stewardship by providing technical and educational assistance to landowners, farmers, and communities to identify and achieve natural resource and land management goals. As special districts governed by locally elected or appointed

15 Electris, et al., "Soil Wealth."

boards of directors, RCDs tend to be proximate to the specific local needs within their district and can provide services such as planning, design, permitting, construction oversight, monitoring, and grant application support services. They can be particularly adept at connecting local farmers with public state and federal funding programs related to implementing conservation practices.

What RCDs tend to lack, however, is familiarity with California's vibrant private-sector financial ecosystem. Northern California is home to a diverse set of investors with explicit commitments to financing regenerative, organic agricultural value chains. San Francisco-based RSF Social Finance pioneered the deployment of "integrated capital," the coordinated use of different forms of financial capital and non-financial resources to support enterprises working on complex social and environmental problems. The integrated-capital model relies on a blend of tools, such as loans, guarantees, equity investments, grants, and non-financial advisory support. RSF has used integrated capital to invest in a variety of organic and biodynamic farms and food-system businesses since its founding in the 1980s. It has funding collaboratives for "Food & Agriculture" and "Biodynamics," and RSF's integrated-capital approach has strongly shaped other leading regenerative agricultural investment strategies, such as rePlant Capital's Soil Fund, the #NoRegrets Initiative associated with Paicines Ranch, Cienega Capital, and project partner Globetrotter Foundation, and our own place-based model for capital coordination through Soil Wealth Areas.

RSF's influence on the field of regenerative finance is just one of many examples of the kinds of network effects that investor initiatives based in northern California have had. Slow Money has three active groups in the region: in Monterey Bay, the San Francisco Bay Area, and San Luis Obispo. The Regenerative Agriculture Investor's Network (RAIN) was founded by LIFT Economy in the San Francisco Bay Area in 2016, and several philanthropic affinity groups focused on food system finance and regenerative agriculture have strong California ties, including California Foodshed Funders, Funders for Regenerative Agriculture (FORA), and the Transformational Investing in Food Systems (TIFS) initiative of the Global Alliance for the Future of Food. More than 100 CDFIs are headquartered across the state, and several have targeted investing programs focused on sustainable agriculture, food systems, and rural development, including California FarmLink,

Beneficial State Bank, Rural Community Assistance Corporation, and Self-Help Federal Credit Union, among many others. And leading farmland investment funds focused on financing regenerative, organic agriculture, including project partner Agriculture Capital and Farmland LP, have a major presence in northern California and the central valley.

Despite this abundance of private capital committed to investing in regenerative agriculture and equitable food systems in California, the scale, complexity, diversity, and fragmentation of California's food and agricultural landscapes make the actual coordination of transactions with farmers and value-chain businesses more complicated than one might otherwise assume. At nearly $13,000 per acre, the average price of farmland in California is more than three times higher than the average in North Carolina and four times higher than in Oregon to the north—making farmland acquisition and expansion extremely challenging for operators that cannot access the requisite financing for it. Only New Jersey has higher farmland prices, and California has the nation's highest farmland rental rates at more than $430 per acre, according to USDA data aggregated by AcreTrader.[16] Development pressures in metropolitan areas such as the San Francisco Bay Area in general and places like Silicon Valley in particular, which are dominated by sprawling corporate campuses for some of the world's largest technology firms, are especially intense. With each California county taking its own approach to financing agricultural easements, outcomes can vary considerably around the state. Thanks to the California Climate Investments Fund, which is funded by proceeds from the state's Cap-and-Trade Program, the Sustainable Agricultural Lands Conservation Program has awarded nearly $300 million to protect over 142,000 acres of farmland since its launch in 2015, but it usually takes very concerted efforts on the part of county officials to take advantage of these complex, competitive programs.

In essence, the state is beset by a paradox of plenty. Amid a multitude of resources, programs, and funding, an atmosphere of scarcity and suspicion repeatedly reigns within the state's highly fragmented farming communities. If a more place-based approach to financing regenerative agriculture in California through Soil Wealth Areas could add value to the process of capital coordination, the recommended path forward is through local experimentation in areas where high-performing RCDs, local farmers, and other place-based stakeholders can overcome these obstacles. A measure of this kind of voluntaristic collaboration seemed to be emerging on the peninsula south of San Francisco in San Mateo and Santa Clara Counties, where RCDs, county officials, regenerative demonstration farms such as TomKat Ranch and Pie Ranch, and the Peninsula Open Space Trust have been forging closer relations with private capital providers such as California FarmLink and Silicon Valley impact investors in food and agriculture such as Better Food Ventures and its affiliated incubator The Mixing Bowl. Among other potential locales for such experimentation are in the collaborative LandSmart RCDs north of San Francisco Bay, particularly in Sonoma and Mendocino Counties, along the Monterey Bay rim, and in Humboldt County on the north coast. Ultimately, local leadership will need to drive any effort to coordinate place-based financing platforms, with aligned capital providers, particularly among CDFIs, impact investors, donor-advised funds, and other philanthropic investors.

In Oregon, by contrast, a more cohesive approach to pursuing opportunities to create place-based financing platforms for regenerative agriculture emerged over the course of our project. Despite sharp differences between large-scale ranching on eastern Oregon's rangelands and the much more diversified agricultural landscapes of the rest of the state (only California has a more diversified crop base than Oregon), a diverse group of stakeholders developed a collaborative statewide dialogue about potential ways to establish Soil Wealth Areas in Oregon. Given the large number of Soil and Water Conservation Districts, stakeholders generally agreed that a broad bioregional approach covering the entire state might be an inclusive configuration for future Soil Wealth Areas.

16 See https://acretrader.com/resources/california-farmland-rental-rates.

Leading Products in Oregon's Main Agricultural Regions

COASTAL	Dairies and cheese mongers, cranberries
SOUTHWEST	Beef cattle, sheep, tree fruit, and some wine grapes
WILLAMETTE VALLEY	Most agriculturally diverse including fruits, vegetables, tree nuts, nursery plants, medicinal herbs, grain, hay, grass seed, dairy, beef cattle, poultry
MID-COLUMBIA	Tree fruit
HIGH DESERT	Hay, beef cattle
COLUMBIA PLATEAU	Wheat, potatoes, onions, watermelon, tree fruits, alfalfa, dairy
SOUTHEAST	Beef cattle, irrigated crops such as onions, potatoes, and sugar beets
NORTHEAST	Onions, hay, potatoes, sugar beets, beef cattle

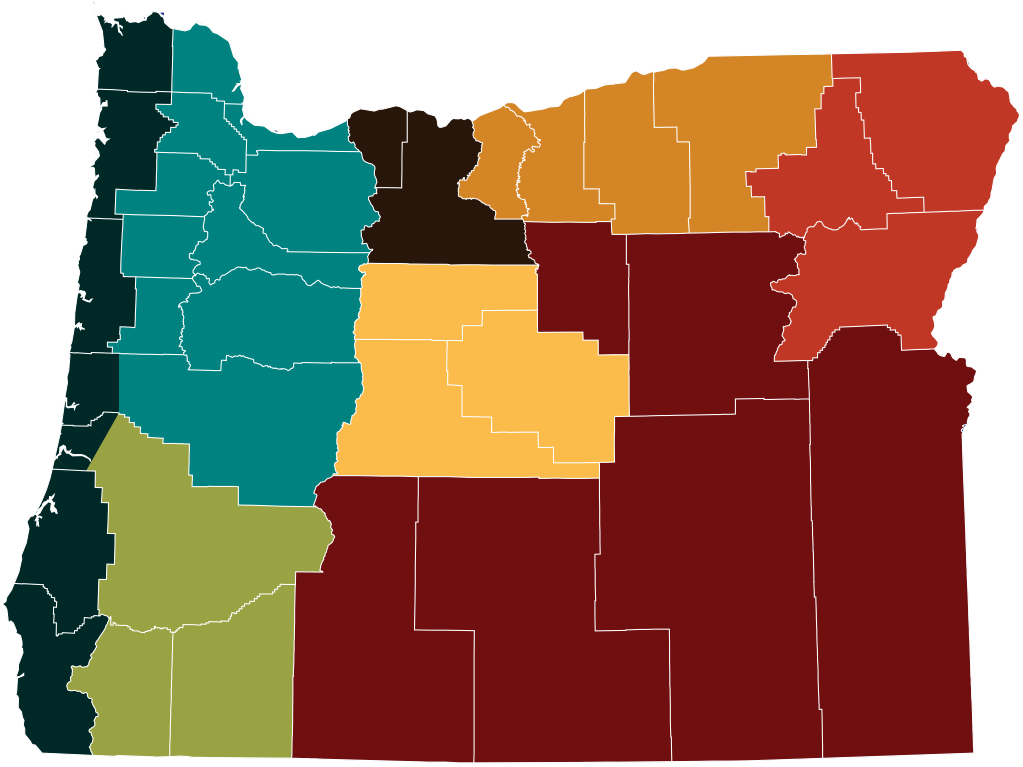
Figure 1

Although the local boundaries of agricultural maps from the Oregon Department of Agriculture, Oregon AgLink, and Oregon Agriculture in the Classroom Foundation may not always be precise, Oregon's agricultural regions remained mostly consistent, with only slight variation in geographic coverage. Based on biophysical attributes and agricultural production, eight primary regions are often found across the state, as indicated in Figure 1: Coastal Oregon, the Southwest, Willamette Valley, the Mid-Columbia River Valley, the Columbia Plateau, the High Desert in central Oregon, and the broad eastern Oregon rangeland regions in the Southeast and Northeast.

The Willamette Valley has the greatest number of farms (19,468) and the highest market value of agricultural products sold ($2.3 billion) of any region in the state. The region boasts great agricultural diversity and produces 170 different commodities, from grain and livestock to fresh produce, wine grapes, and hazelnuts. Our primary Oregon partner farms affiliated with the Organic Valley cooperative and Agriculture Capital have their deepest footprints in the Willamette Valley.

The most farmland in the state is found on the Columbia Plateau, just south of the Columbia River dividing Oregon from central Washington state. The Plateau has 5 million acres and nearly as much irrigated land as the Willamette Valley. Despite a lower number of farms than in the Willamette Valley (3,615), the market value in the Columbia Plateau is also much higher than the other regions ($1.25 billion). This is Oregon's principal wheat production area and is also home to one of the nation's largest dairies.

Despite Oregon's rich agricultural history, there are many challenges facing farming families and beginning farmers in the state. The average age of Oregon farmers is 60 years old, putting 64 percent of Oregon's farmland, equivalent to 10 million acres, in jeopardy as



Potential Configuration for Soil Wealth Areas in Oregon

it passes to new owners.[17] Many are impacted by this pending transition, including retiring farmers and farm families that want a financially secure retirement while passing on their agricultural legacy, beginning farmers looking to purchase land or take over existing businesses, and rural agricultural communities hoping to preserve their agricultural economy. However, with the rising cost of farmland, lack of access to capital, increasing start-up and input costs, and systemic issues for BIPOC and women farmers are making it harder for beginning farmers to succeed in the state without critical financial support.[18]

Furthermore, anecdotal evidence from Oregon suggests that many young producers are not qualifying for federal FSA loans and are having trouble accessing other loans. Traditional lenders struggle to understand revenue implications for direct-to-consumer models and are not equipped to take on the risk of supporting small-scale farming.[19]

Another study found that Oregon's strong tradition of individual land ownership and family farming is gradually shifting toward more corporate and investor ownership of farmland. A wide range of nonfamily actors, including some without agricultural motivations, are buying larger farm properties.[20]

17 Lauren Gwin, et al., "The Future of Oregon's Agricultural Land," Oregon State University, Portland State University, and Rogue Farm Corps, September 2016.

18 Gwin, et al., "The Future of Oregon's Agricultural Land."

19 Gwin, et al., "The Future of Oregon's Agricultural Land."

20 Megan Horst, "Changes in Farmland Ownership in Oregon, USA," *Land* 8 (2019).

Without intervention, Oregon will likely see continuing consolidation, corporatization, investor ownership, and conversion of farmland to other uses.[21]

A 2016 gap analysis of Oregon food infrastructure by Ecotrust found that small and mid-size farmers and ranchers lack access to food aggregation, processing, and distribution infrastructure, which inhibits the growth and development of regional food economies across the state.[22] The authors note that "the coordination of a wide variety of investment and initiatives" will be required to generate lasting change and recommend for further exploration cooperative infrastructure models such as shared use of processing facilities, storage capacity, distribution trucks and coordinated regional marketing efforts—an issue that project partner Agriculture Capital has been keen to address. (See the side bar below.)[23]

Given the numerous organizations working broadly across the state, from the Oregon Agricultural Trust (OAT), the Black Oregon Land Trust (BOLT), the Oregon Organic Coalition, Oregon Tilth, Oregon State University, and nonprofit field-building groups such as Ecotrust, the establishment of a collaborative financing platform along the lines of Soil Wealth Areas could help connect farmers and entrepreneurs to a regional ecosystem of capital providers across Oregon and the entire Pacific Northwest, including farmland and timberland investors such as Agriculture Capital, Ecotrust, and Farmland LP; CDFIs such as Craft3 and Beneficial State Bank; regional Slow Money and philanthropic investors; and new private commercial lending platforms such as Steward or investment advisers such as Forcefield Capital. Although not nearly as extensive as the capital ecosystem in California, Oregon's network of capital providers nevertheless work in highly differentiated asset classes—from real assets to private debt and private equity—and consequently deploy their financing through a variety of different mechanisms, instruments, and vehicles that many farmers and entrepreneurs frequently do not fully understand. Soil Wealth Areas again promise to provide precisely such an educational function to capital seekers, whether farmers seeking liquidity to retire through agricultural easements and farmland purchases or beginning farmers seeking access to land and capital. The Oregon Soil Wealth Areas could also vet farmland investment companies to ensure that their leasing and exit strategies are fair and accessible for beginning farmers and their farm management practices align with regenerative objectives both across landscapes and in rural communities directly impacted by that investment.

In the greater Portland area, which stretches across the Columbia River into southwestern Washington state, many BIPOC farmers are seeking access to land, and numerous grassroots organizations, such as the Black Food Sovereignty Coalition, BOLT, Feed'em Freedom Foundation, and LULAC Grows are actively working to help farmers make connections to these kinds of reliable, more flexible capital providers, support value chain development, and improve access to healthy, local food. Through Oregon Soil Wealth Areas, reparative capital—financing that is culturally appropriate, flexible, and patient—could be more transparently coordinated to support investments in infrastructure and land access, in much the way transactions were piloted with underserved farmers in the South. Furthermore, through FinHealth technical assistance, Soil Wealth Areas in Oregon can also support new frameworks and approaches that strengthen financial resilience, investment readiness, and wealth-building pathways in BIPOC communities.

21 Horst, "Changes in Farmland Ownership in Oregon, USA."

22 Ecotrust, "Oregon Food Infrastructure Gap Analysis: Where Could Investment Catalyze Regional Food System Growth and Development," April 2015.

23 Ecotrust, "Oregon Food Infrastructure Gap Analysis."

CASE STUDY

Agriculture Capital

Leveraging Larger-Scale Investments in Regional Regenerative, Organic Infrastructure on the West Coast

Agriculture Capital is a regenerative agriculture and food investment firm which invests in permanent cropland and related midstream assets to create a vertically integrated enterprise that grows, packs and markets high-value, healthy foods. In Oregon, Agriculture Capital primarily owns blueberry and hazelnut farms, as well as packing, processing, cold storage, and sales and marketing capabilities. With approximately 2,000 acres of blueberries in Oregon, all of which are organic or in transition, the firm has been advancing conservation and regenerative practices to improve yields, increase resiliency, and enhance fruit quality. They use advanced drip and fan-jet irrigation, and plant cover crops and hedgerows to increase water retention and provide native pollinator habitat.

Agriculture Capital was the first producer in Oregon to earn the Bee Better certification for blueberries from the Xerces Society for Invertebrate Conservation, and preliminary assessments suggest yield enhancements and larger berries accompanying a 9x increase in wild pollinators and a 2.5x increase in beneficial insect abundance at their farms in the Independence area of Oregon between 2016 and 2020. At their three oldest Oregon farms, the firm has sequestered more than 13,000 metric tons of CO_2e annually by working on soil health, which has also helped them to retain 82.6 million gallons of water alongside a 20-percent increase in soil organic matter across their entire portfolio.

While Agriculture Capital has invested in efficient technologies across their blueberry packing operation, they currently have extra capacity in their facilities that other market participants could take advantage of. However, other blueberry growers in the region seem to lack the scale and systems to access this kind of processing infrastructure. Place-based financing coordinated through the Soil Wealth Areas could help address this gap by financing other growers to meet these processing and packing thresholds and foster greater regional collaboration around such underutilized resources.[24]

24 More details of Agriculture Capital's environmental, social, and infrastructure impact across its portfolio of funds and farms can be found in "Regenerating Value: Responsible Agriculture at Scale," 2020 Impact Report, Agriculture Capital, December 2021.

THE UPPER MIDWEST: WISCONSIN

Wisconsin has been a long-established, national leader in conservation and regenerative, organic agriculture. Even before the development of conservation districts, the state played host to the very first federal conservation project, when in 1933 the Coon Valley watershed was selected by the US Soil Conservation Service for the first erosion control project. The project promoted tree planting and contour farming along Coon Creek's intensively farmed, highly erodible hillsides and delivered demonstrable soil and water quality benefits throughout the watershed.

Today Wisconsin has some of the best agricultural land in the United States with 61 percent of the state's farmland considered nationally significant, and it is a key state for dairy, cheese, cranberries, and processing vegetables such as carrots, potatoes, and green peas.[25]

As a documented Organic Hotspot, it also has one of the largest number of certified organic farms, second only to California.[26] Wisconsin leads the nation in the number of organic field crop farms and organic livestock farms, including laying hens and hogs, and it has the second highest number of organic vegetable farms and dairies.

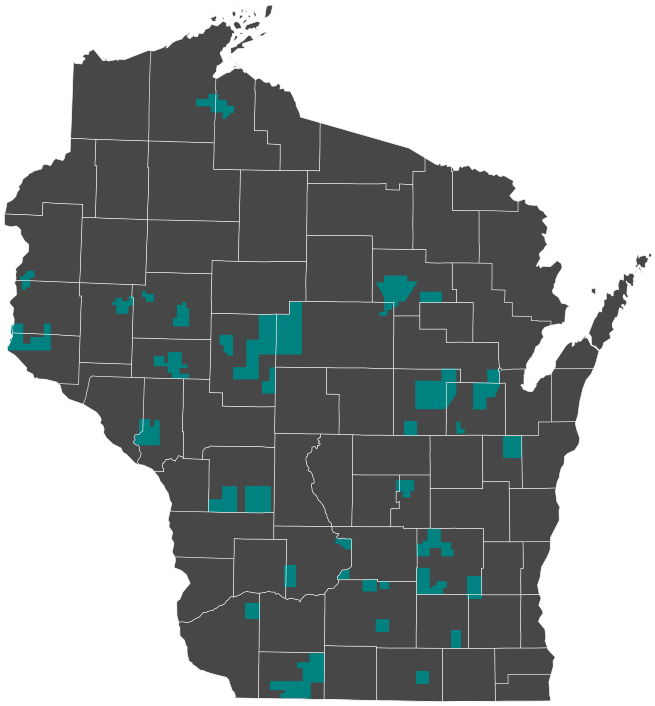
Despite this leadership position, the state finds itself at high risk of agricultural land conversion, soil loss, and climate impacts. The development and conversion to urban, highly developed, and low-density residential land use remains a significant threat to both the environment and the agricultural economy. From 2001 to 2016, nearly 250,000 acres of land was converted out of agricultural use, which could have generated $190 million in annual revenue.[27]

To assess potential geographical configurations for Soil Wealth Areas in Wisconsin, the project team and Wisconsin partners reviewed the feasibility of aligning

25 American Farmland Trust, "Wisconsin Farmland Protection Partnership Project"; and Wisconsin Department of Agriculture, Trade, and Consumer Protection, "Wisconsin Agricultural Statistics."

26 E. Silva, et al., "Organic Agriculture in Wisconsin: 2021 Status Report," Center for Integrated Agricultural Systems, University of Wisconsin-Madison, July 28, 2021.

27 American Farmland Trust, "Wisconsin Farmland Protection Partnership Project."



Map of Agricultural Enterprise Areas (AEAs) in Wisconsin

them with Wisconsin's farmland protection districts known as Agricultural Enterprise Areas (AEAs). AEAs are designated by the WI Department of Agriculture, Trade, and Consumer Protection (DATCP) to protect areas of productive agriculture. Landowners within an AEA who sign a farmland preservation agreement with the Department are then eligible for a $5–$10/acre farmland preservation tax credit. Forty-two AEAs have been established around the state, and several new communities seek the designation every year. Many analysts consider the tax credit to be only of modest benefit to farmers and the conservation commitments by farmers associated with them to be relatively limited.

The intent behind AEAs was to create zones where value-added and other agricultural enterprises could flourish, protected by the security of farmland being preserved. They are a tool that can help meet locally identified goals for land preservation and support agricultural infrastructure and businesses. The local designation of an AEA can also be used as part of a local land use and development strategy.[28] Yet, to generate long-term results and meet these goals, AEAs may require increased capacity, personnel, and capital. They could potentially be a valuable partner for developing Wisconsin Soil Wealth Areas, but given their current capacities, it may take more time, policy, and alignment with conservation priorities to establish such a formal partnership.

In terms of mission, the regional clusters associated with the Grassland 2.0 initiative have a higher potential for alignment with Soil Wealth Areas in Wisconsin. Grassland 2.0 is a collaborative group of farmers, researchers, and public and private sector leaders in the Midwest working to develop pathways for increased farmer profitability, yield stability, and nutrient and water efficiency, while improving water quality, soil health, biodiversity, and climate resilience through grassland-based agriculture.[29] As a five-year project based at the University of Wisconsin-Madison with funding from USDA's National Institute of Food and Agriculture, Grassland 2.0 is developing an agroecological landscape transformation plan to transition annual row crops in the North Central US to perennial grasslands and regeneratively grazed livestock. The project has designated several Learning Hubs, or place-based focal points of activity that support communication and co-learning among various stakeholders, including farmers and community members. The project team has identified the Learning Hubs as well poised to offer a more viable structure for potential Soil Wealth Areas in Wisconsin, particularly in the Driftless and Cloverbelt regions.

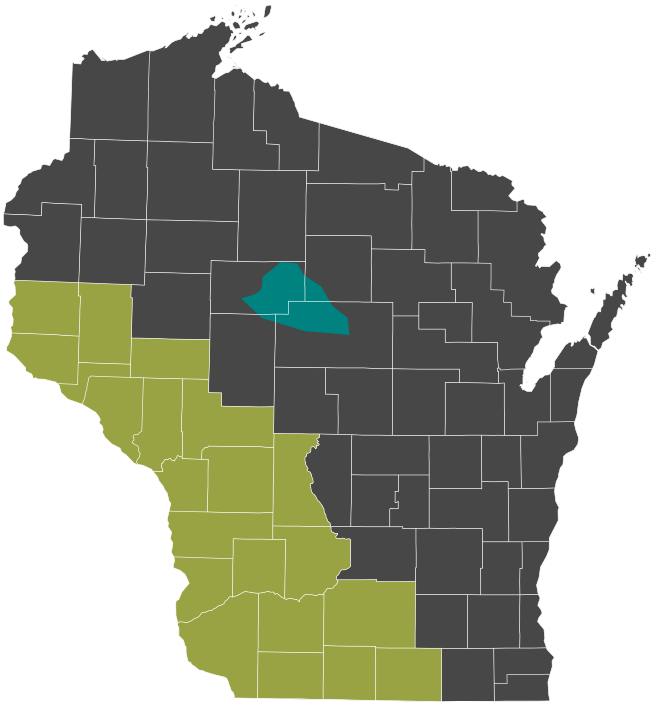
The Driftless region in the southwest of Wisconsin features rolling hills and widespread farms and pastures. It is also the home of coordinated efforts for conservation and soil erosion reduction projects, stretching back to that initial conservation project in

28 Wisconsin Working Lands Initiative, "Understanding Agricultural Enterprise Areas (AEAs) and the Petition Process," Wisconsin Department of Agriculture, Trade, and Consumer Protection, June 2012.

29 Learn more about Grassland 2.0 and Learning Hubs at https://grasslandag.org/

the Coon Valley.[30] The nation's largest cooperative of organic farmers, Organic Valley, traces its origins back to a bioregional cooperative of dairy farmers in the Driftless area, and the national headquarters is still based there, in La Farge. However, over the last decade the Driftless region has seen an increase in the concentration of larger dairy farms, at the expense of smaller dairies.[31] Row crop acreage has also expanded in the region, by more than 20,000 acres between 2006 and 2017, representing an over 30 percent increase in some watersheds.[32] Most of the land converted to row crops came from grasslands and pastures (52 percent), which may represent impacts from the decline in small dairies.[33] In central Wisconsin, the more compact Cloverbelt region is in the Eau Pleine watershed of Marathon and Taylor Counties. In this watershed, glaciers created a network of warm and cold-water streams fed by surface and groundwater sources that connect to the Wisconsin River, providing fertile agricultural lands. The Cloverbelt Learning Hub has provided a forum specifically for modeling the benefits of dairy heifer grazing on perennial grasslands, as a profitable alternative to confinement dairy farming or the steady conversion of farmland to annual row crop production.

The Wisconsin Soil Wealth Areas would leverage the skills and services provided by the Learning Hubs, including supply chain coordination, agronomic and pasture-based technical assistance, and research and education, to support agricultural practitioners and value-chain businesses while also connecting these regenerative businesses to appropriate financing opportunities. The Soil Wealth Areas could also provide financial readiness technical assistance and financing technical assistance to connect regenerative farm enterprises to more flexible capital providers.



Potential Soil Wealth Areas in Wisconsin

The upper Midwest has seen numerous notable developments in the financing landscape to support regenerative, organic farms. It was the first region within the government-sponsored Farm Credit System to see a dedicated bridge loan product to finance farms going through a transition to organic certification. In Compeer Financial's service areas, which include portions of Wisconsin, Illinois, and Minnesota, its Organic Bridge Loan program provides flexible loans to farmers going through the certification process, with interest-only payments during the organic transition period, which can take up to three years. Once certification is attained, the loan converts to a fixed-term loan with fully amortized payments and a

30 Tori J. McCormick, "Driftless Area: A treasure worth saving," Institute for Agriculture & Trade Policy, May 2006; and Daniel C. Dauwalter et al., "A Look Back at Driftless Area Science to Plan for Resiliency in an Uncertain Future," Special Publication of the 11th Annual Driftless Area Symposium, La Crosse, Wisconsin, February 2019.

31 Andy VanLoocke, Shane Hubbard, and Chris Kucharik, "Rapid Changes to the Agricultural Landscape in the Driftless Region," Iowa State University Extension and Outreach, April 2020.

32 VanLoocke, et al., "Rapid Changes to the Agricultural Landscape in the Driftless Region."

33 VanLoocke, et al., "Rapid Changes to the Agricultural Landscape in the Driftless Region."

term based on the operation's cash flow.[34] Much of the Driftless region is within Compeer's service areas, for example.

Before Compeer developed its Organic Bridge Loan, Iroquois Valley Farmland REIT, a private farmland investment fund focused on investing in organic farms, had pioneered a flexible organic transition loan capitalized by what it calls a Soil Restoration Note. The note is an unsecured promissory note for accredited impact investors to make 5-year, 2% loans at $50,000 minimum investments.[35] Although Iroquois Valley's primary business is equity investing in organic farmland, approximately 30 percent of its capital are in mortgages to family farms seeking flexible terms for organic transition. Because of the restrictions on institutional investor ownership of farmland in Wisconsin, mortgage lending is the primary way Iroquois invests in the state, and it has issued several flexible loans to farmers in the Driftless area. Iroquois's investment portfolio is geographically unconstrained and national in scope, but its historic base is in Illinois and the Midwest.

Organic Valley itself has also creatively issued various series of exempt offerings of preferred stock to finance its own capital base. As a cooperative, all farmer members are owners of common stock, and they are also required to invest 5.5 percent of their annual gross income in a series of dividend-paying Class B preferred stock. Non-member outside investors have also repeatedly been given opportunities to invest in a separate series of dividend-paying Class E preferred stock.[36] The offerings were repeatedly oversubscribed by impact investors seeking opportunities to invest in organic family farmers. Recognizing their owner-members' more specific financing needs, Organic Valley also recently developed a special loan fund in collaboration with the Clean Energy Credit Union to help farmers finance solar energy arrays, energy efficiency improvements, and geothermal systems and ground-source heat pumps. Seeded with an initial $1 million, the Powering the Good Loan Fund gives their certified organic owner-members the opportunity to reduce their greenhouse gas emissions and carbon footprint in line with the cooperative's broader net-zero goals. Applying the same kind of financial mechanisms to support investments in regenerative initiatives, such as better pasture and soil health, dairy manure management, and wider landscape conservation practices such as planting trees and hedgerows, which both sequester carbon and support biodiversity, would reap even stronger returns than organic dairies already have been shown to provide.[37]

34 Compeer Financial, Organic Bridge Loan.

35 See https://iroquoisvalley.com/invest/soil-restoration-notes/.

36 See Organic Valley, A Mission Worth Supporting.

37 Horacio A. Aguirre-Villegas, "Farm Level Environmental Assessment of Organic Dairy Systems in the U.S.," *Journal of Cleaner Production* 363 (2022).

Extending Property Assessed Financing to Regenerative Agriculture

However, one of the capital challenges Wisconsin faces in contrast to North Carolina, California, and Oregon is its far weaker ecosystem of flexible finance from private sector investors such as CDFIs. Although there are nearly 20 CDFIs operating in Wisconsin, a recent landscape analysis highlighted substantial shortfalls in rural access to CDFI capital because of their predominantly urban footprint. The report noted that Wisconsin is "missing the benefit of having a rural CDFI that is dedicated to working in rural communities on issues that are rural-based, including agricultural lending."[38] Several CDFIs led by Indigenous groups in predominantly rural areas are also among the most undercapitalized in the state.

To reduce financial barriers, the project team explored two statewide models that leverage public funding to finance the transition of farms to regenerative practices and help build up supportive value-chain businesses:

1. a regenerative agriculture tax credit program; and
2. adopting land-secured financing mechanisms by extending Wisconsin's Property Assessed Clean Energy (PACE) legislation to regenerative agriculture.

Tax credit financing would create incentives for outside private investors to provide capital up-front to transitioning farms or value-chain businesses by providing a state tax credit against their income tax in exchange for making investments into a qualified farm or enterprise. Tax credit financing has been a successful way to mobilize private capital for developing affordable housing through Housing Tax Credits, rehabilitating historic buildings through Historic Preservation Tax Credits, or investing in underserved communities through New Market Tax Credits. Ultimately, a tax credit strategy was not seen as a viable financial mechanism to integrate into Wisconsin Soil Wealth Areas.

While this project was underway, legislation was moving through the Wisconsin legislature that

38 "Wisconsin's Community Development Financial Institutions (CDFIs)," P3 Development Group and WHEDA, 2021, 24.

might either allow the financing of conservation improvements and regenerative value-chain businesses through property-assessed financing mechanisms or extend existing PACE programs to serve farms embracing regenerative agricultural practices. On March 11, 2022, the Governor of Wisconsin signed the 2021 Wisconsin Act 175 into law. This act updates the Commercial PACE law in the state with several new statutes that allow PACE financing to support "resiliency improvements" and "stormwater control measures." Once the law was published, it was the responsibility of the State of Wisconsin PACE administrator Slipstream (a project partner actively involved in our Wisconsin team's work) to define how those new terms would be defined and implemented across the PACE program. Croatan Institute, Slipstream, and Michael Fields Agricultural Institute worked diligently to identify conservation practices that were appropriate for PACE and aligned with regenerative agriculture, including managed grazing and agroforestry. The project team drafted sections 4.4.1 Resiliency Projects and 4.4.2 Stormwater Control Measures for the PACE Wisconsin Program Manual Version 4.1, which took effect at the beginning of July 2022. These sections build directly upon numerous features of NRCS conservation programs, including that the analysis of the project's conservation value can be completed by a NRCS Technical Service Provider with demonstrated conservation expertise, the eligible practices include several EQIP practice standards, and the financing timelines are also based on NRCS published practice lifespans.[39]

Effective July 1, 2022, farmers and other agricultural producers in Wisconsin can use PACE to pay for certain equipment and improvements that build soil health, increase water infiltration, or reduce nutrient losses and flooding. Farming methods that focus on improving pastures or increasing perennial forages significantly improve soil health, which increases water infiltration and reduces stormwater runoff.

Qualified PACE lenders can offer landowners financing with the following kinds of benefits and features:

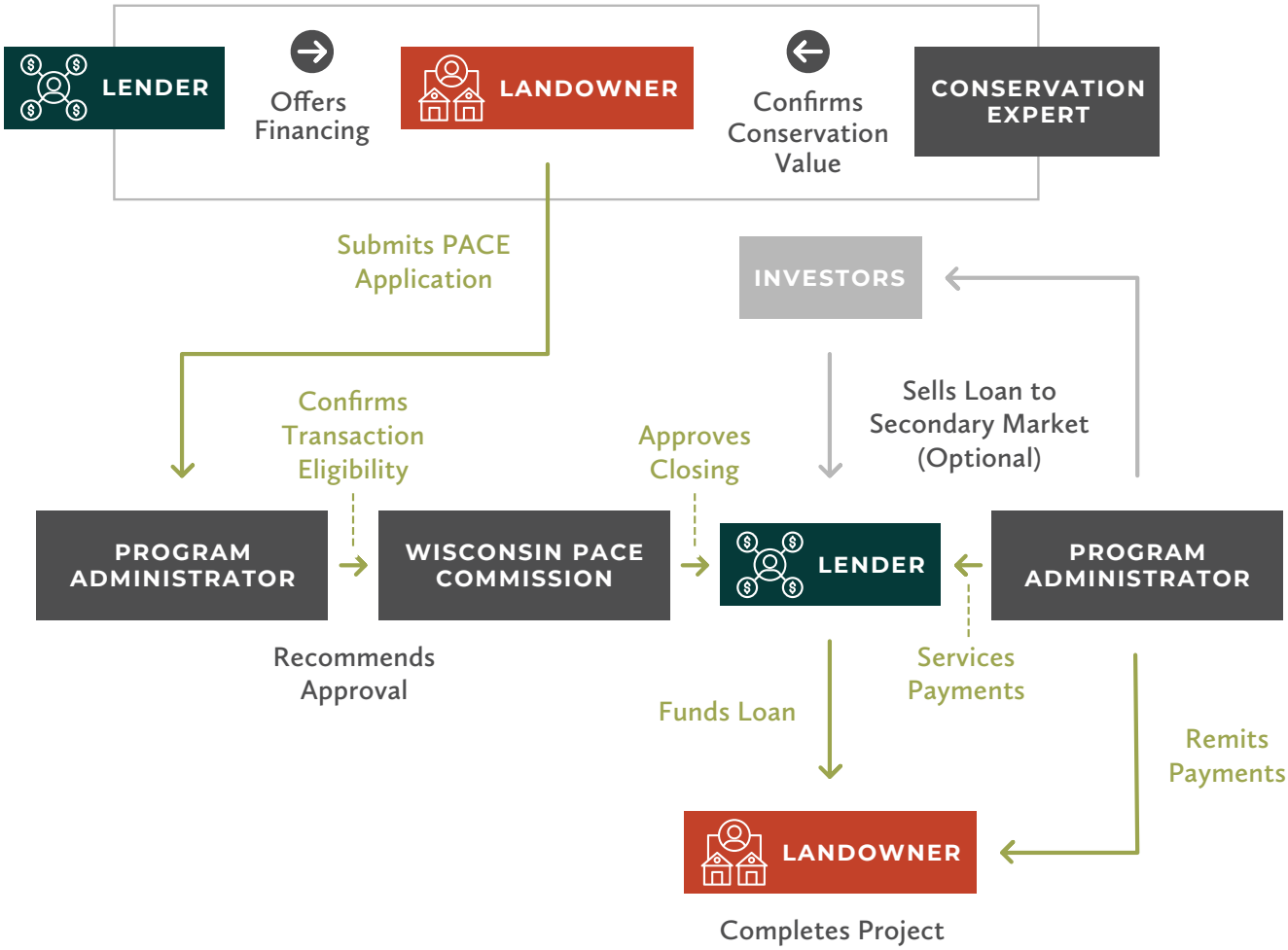
- 100% of eligible direct project costs as well as certain project development and transaction costs
- Extended amortization and repayment periods (up to 30-year repayment terms) to keep loan payments affordable
- Fixed-interest rates to reduce risk and uncertainty for borrowers and lenders
- Loans secured by the land and non-recourse against the borrower, thus reducing default risk for the lender and personal exposure for the borrower
- Non-accelerating debt structure to limit risk for other lienholders
- Annual, or semi-annual, payments via property tax billing to mitigate the seasonal ebbs and flows of agribusiness cash flows, which can make monthly payments challenging

PACE funding can be used to finance improvements that are "permanently affixed" to a property, meaning that they cannot be moved. For example, fencing and buildings would be covered but movable equipment like tractors or planters would not be covered. Other covered costs include:

- Pasture establishment
- Permanent fencing to subdivide grazing paddocks
- Permanent water systems
- Solar chargers for fencing & water systems
- Winter feeding structures
- Planting trees for agroforestry or silvopasture
- Planting trees as windbreaks
- Protection for young trees

The updated PACE legislation in Wisconsin opens the door for the financing of several regenerative agricultural practices, including managed grazing and agroforestry. The financing for these agricultural practices is provided by lenders and repaid via the property tax bill.

39 2021 Wisconsin Act 175, https://docs.legis.wisconsin.gov/2021/related/acts/175.



Process of Applying PACE financing to Regenerative Agriculture in Wisconsin

With the conclusion of this feasibility analysis, Croatan Institute and its partners in Wisconsin will continue to explore whether the place-based farming clusters of the Grassland 2.0 Learning Hubs in the Driftless region and the Cloverbelt could serve as pilot geographies for Wisconsin Soil Wealth Areas, to facilitate the project's objectives of transitioning more of the upper Midwest's annual commodity crops into perennial grasslands through the end of 2024. With Wisconsin's PACE framework now firmly extended to conservation practices aligned with regenerative agriculture, we also aim to leverage other philanthropic and impact-oriented sources of capital and on-going projects related to agroforestry finance to pilot transactions between PACE lenders and landowners seeking long-term, patient financing for regenerative agricultural improvements on their land, ideally in these same Learning Hub regions. Soil Wealth Areas in Wisconsin could also give a place-based boost to the other kinds of financial mechanisms and approaches that have been used in Wisconsin in the past, connecting farmers to organic bridge loans from farmland investors and the Farm Credit System, for example, and other flexible forms of financing and technical assistance. This project's momentum can help address those shortfalls in rural access to capital by accelerating the quantity (and quality) of private capital that is invested in these geographies in ways that produce reasonable returns for investors and environmental and social benefits for the public.

CONCLUSION: CREATING A SOIL WEALTH COMMUNITY

The opportunities and challenges associated with implementing place-based financing districts for regenerative agriculture differ widely across the three regions under consideration.

In North Carolina in the South and Oregon in the Pacific Northwest, opportunities for a statewide approach to Soil Wealth Areas seem ripest, rooted in broad bioregions with growing groups of place-based partners, capital providers, and stakeholders moving forward with collaborations to build upon findings from this feasibility phase of analysis. Based on learnings from the specific transactions and technical assistance piloted in North Carolina, partnerships have already been forged to develop three regional Soil Wealth Areas under a broad statewide nonprofit structure and to establish an equitable governance framework for them that would include a diverse group of stakeholders.

In California, by contrast, local action in coordination with trusted technical assistance providers within high-performing RCDs presents the most promising path for future development of place-based financing initiatives. Without a statewide policy push, any future progress may be highly fragmented, but that kind of experimentation seems most appropriate to a place long known for its innovations at local levels.

In Wisconsin, recent bipartisan policy developments at the state level have paved the way for the extension of land-secured financing mechanisms to support long-term investments in regenerative agriculture practices across the state, but particular interest in implementing regenerative practices tends to be clustered in areas such as the Driftless region and the Cloverbelt with long-standing interests in conservation, organic agriculture, and livestock grazing on perennial pastures. We recommend that priority be given to PACE-financed pilot projects in the context of the Grassland 2.0 Learning Hubs to determine whether facilitating such transactions could be the basis for Soil Wealth Areas in Wisconsin.

As with the evolution of conservation districts over the last 85 years, there is no one-size-fits-all approach to developing place-based financing districts. The patterns of place will ultimately shape Soil Wealth Areas in different states and regions. Nevertheless, practitioners engaged in our project have expressed interest in remaining engaged in a community of practice for mutual learning about varying experiences with Soil Wealth Areas in other places. Similarly, investors that may not be confined to working in a single place are seeking opportunities to connect, collaborate, and deploy capital across Soil Wealth Areas and in wider geographies than those under analysis here.

We therefore conclude this feasibility analysis by proposing the creation of a national Soil Wealth Community to advance this work collectively. **The Soil Wealth Community** is an open community of practice that would convene interested parties working on place-based approaches to financing regenerative agricultural value chains. The community would include representatives from the Soil Wealth Areas being established in places such as the South and Midwest and practitioners from places interested in exploring whether Soil Wealth Areas may be a useful means for connecting capital providers and capital seekers in their locale. It would also include a **Soil Wealth Capital Collaborative** where investors and capital providers would be organized to explore collaborative opportunities to finance specific transactions that would emerge from on-the-ground practitioners in the Soil Wealth Areas.

The precise model of membership in the Soil Wealth Community, the Soil Wealth Capital Collaborative, and specific Soil Wealth Areas will be determined collectively as this project transitions from its initial feasibility phase of analysis into a new implementation phase. The aim of this proposed community is to provide a transparent and inclusive ecosystem for convening and collaboration at both a national level and in place through the Soil Wealth Areas.

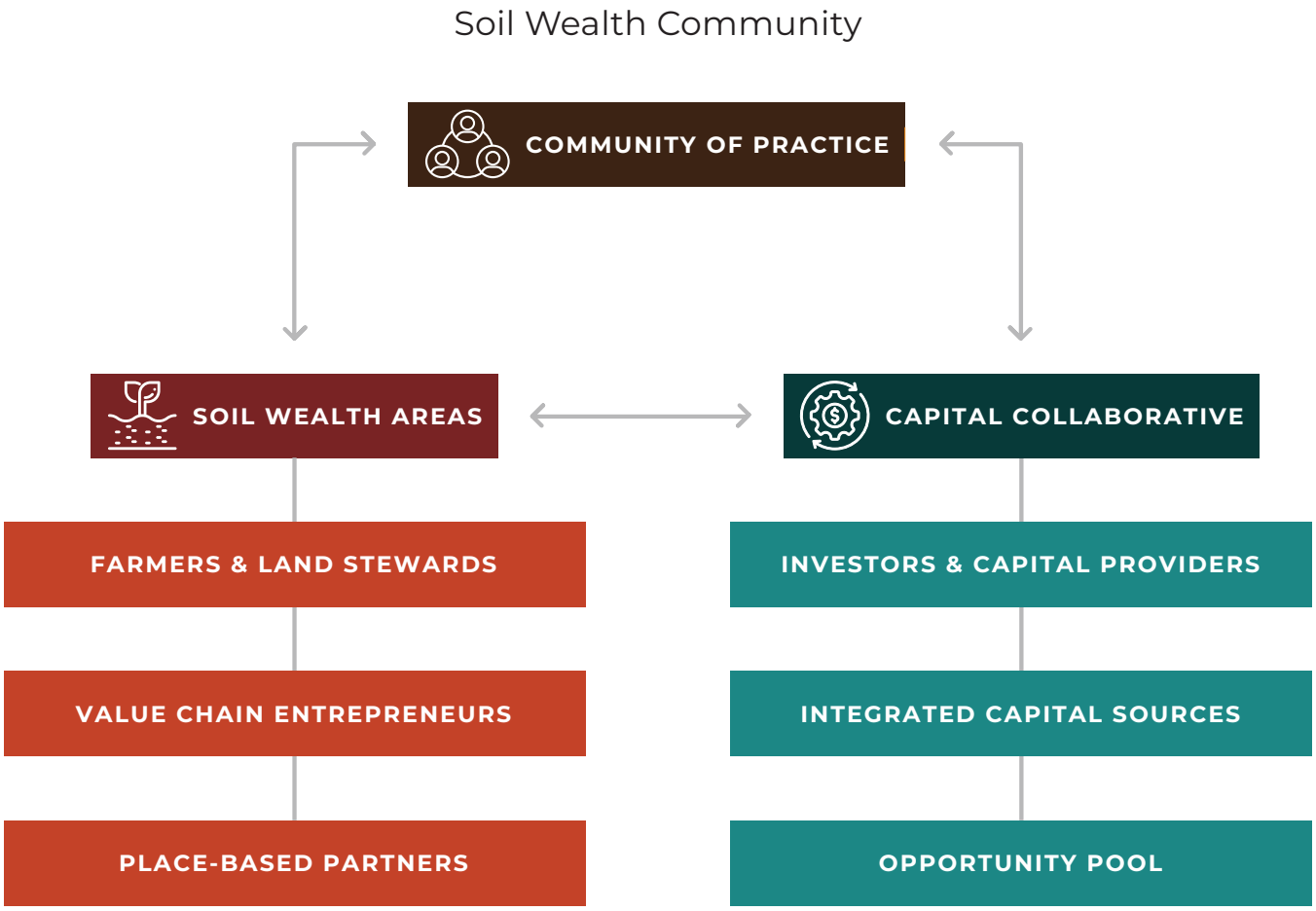


Figure 3: Visualization of the Soil Wealth Community

THE SOIL WEALTH AREAS will ultimately provide the place-based foundations of the wider Soil Wealth Community. As place-based districts, they are designed to be inclusively governed by diverse, local stakeholders. Soil Wealth Areas provide a local forum and interface for farmers and value-chain entrepreneurs seeking technical assistance and more appropriate forms of financing. Much like value-chain coordinators in the WealthWorks model of regional wealth building, Soil Wealth Areas will help identify regional financing assets, gaps, and opportunities; coordinate financial, business planning and agronomic technical assistance for farmers and business owners; develop mentorship networks; coordinate value-chain relationships; and support community building.

Each Soil Wealth Area will take on its own composition and contours, with the flexibility to be responsive to local needs—and to determine regional priorities related to regenerative agriculture, conservation practices appropriate to place, and resilient, healthy, and equitable food, farming, fiber, and forestry systems. If organized as tax-exempt nonprofit organizations, Soil Wealth Areas could also serve as fiscal sponsors or regranting organizations for tax-deductible charitable contributions for projects with demonstrable social and environmental benefits.

THE SOIL WEALTH CAPITAL COLLABORATIVE organizes investors who are interested in funding regenerative agriculture and impact-focused projects. Some of its functions include:

- Educating the community about investment opportunities
- Fostering new connections among capital providers to increase their impact
- Connecting funders to place-based projects and mission-aligned stakeholders
- Providing access to curated deal flow and due diligence support

However, the Soil Wealth Capital Collaborative is not meant to be a broker-dealer or an issuer of securities, but rather a convener, connector, and coordinator of capital providers to the members of Soil Wealth Areas seeking aligned forms of financing. Capital providers would naturally represent a diverse array of interests and asset classes, including farmland funds, private equity and debt funds, certified CDFIs, impact investors, foundations, other institutional investors, individual Slow Money investors, and financial advisers with clients seeking exposure to regenerative agricultural investment opportunities.

An important component of the Soil Wealth Capital Collaborative is also an internal, flexible pool of catalytic capital that can further facilitate collaboration by filling capital gaps and de-risking transactions. This **Soil Wealth Opportunity Pool** would, for example, provide loan guarantees or other credit enhancements to unlock debt capital, in much the way the loan guarantee

from the Croatan Fund for Recovery and Resilience was used to enhance the credit provided by Foodshed Capital's Black Farmer Equity Fund to the Rural Beacon Initiative for its conservation acquisition in eastern North Carolina. The Opportunity Pool could also provide a complementary pool of integrated capital that could fund conservation acquisitions or easements or serve as a co-investor or subordinated debt provider to encourage impact investors to finance opportunities that they might not otherwise do on their own.

The Soil Wealth Capital Collaborative's integrated-capital approach could also connect capital seekers to inclusive financial technologies such as crowdfunding donation and investment platforms enabled by the JOBS Act and other state-based legislation or to investor networks such as Foodshed Investors, the Regenerative Agriculture Investor's Network, Slow Money lenders, and philanthropic investors associated with groups such as FORA, TIFS, and the Sustainable Agriculture and Food System Funders. Investors could also leverage the Capital Collaborative to help capitalize new funds and products. Private investment firms could share investment offerings that are mission-aligned through the collaborative.

As we have seen over the course of this project, other financial mechanisms may be germane to the needs and opportunities identified within specific Soil Wealth Areas, so the Soil Wealth Community is meant to be a community of practice for wider exploration, education, and experimentation with mechanisms across asset classes. For example, municipal bond financing from state agricultural finance authorities, conservation districts, regional development authorities, or local government agencies could be explored more fully in certain geographies. Green Aggie Bonds for underserved, new or beginning regenerative farmers could also be developed to securitize beginning farmer lending programs if the local policy environments are open to such initiatives, potentially in coordination with public agricultural lending programs or regional Farm Credit System banks. In Wisconsin property-assessed, land-secured financing mechanisms are suddenly primed for application to regenerative agriculture. Tax equity and tax credit financing could similarly be explored.

Another critical need identified in the course of the project is for greater education and transparency into emerging marketplaces that provide payments to farmers and landowners for ecosystem services, such as improved or increased soil health and conservation practices, wetland and other sensitive ecosystem preservation, improved wildlife habitat and biodiversity, and carbon sequestration or mitigation. Payments for these practices can come either from private companies or through government funding to off-set practices, but navigating these highly fragmented programs and providers can be challenging for practitioners in the field. Wetland mitigation banking is one example of a highly complex process for delivering high-value ecosystem payments for the restoration, creation, or enhancement of wetlands that compensate for unavoidable impacts to watersheds at another location, such as the development of a new highway. Mitigation banking typically involves complex inter-agency coordination of regulatory authorities that only highly technical engineering and environmental consulting firms are equipped to do; consequently, far more of the economic benefits tend to go to intermediary technical assistance providers than to individual farmers or landowners. Soil Wealth Areas could help connect farmers with more mission-aligned TA providers to advise them on opportunities associated with mitigation banking on their lands.

Similarly, carbon markets present rapidly changing opportunities for financing climate-friendly regenerative agriculture practices. While most of these markets remain voluntary, California established the first regulated carbon market in the US in 2016. Typically, corporations seeking to off-set their greenhouse gas emissions and meet their climate goals will purchase credits from farmers and landowners for verifiable carbon sequestration practices. Companies work through third-party intermediaries that can verify carbon sequestering practices undertaken such as tree-plantings, forest stewardship, cover crops, and no-till agriculture. At the end of 2021, global markets for carbon dioxide grew by 164 percent with a market value of $850 billion, but with this growth has come increasing technical complexity related to the science of soil carbon sequestration and growing scrutiny

and controversy over the additionality of both short- and long-term practices.[40] Soil Wealth Areas could become a trusted resource for farmers, landowners, entrepreneurs, and investors seeking to understand how, or whether, to participate in these various private markets for ecosystem services.

Stimulating soil wealth according to the patterns of place requires inclusive communities of practice. The Soil Wealth Community we recommend developing to extend this work aims to provide a national forum for practitioners to connect, convene, and collaborate on opportunities to invest in regenerative agriculture, enhanced conservation, and resilient rural communities. Soil Wealth Areas provide place-based districts where stakeholders, farmers, landowners, entrepreneurs, and community-based investors can come together to prioritize their regional financing needs and communicate those opportunities to aligned investors within the Soil Wealth Capital Collaborative.

For regenerative agriculture to live up to its promises of positive environmental and social impact, its practitioners need access to patient, flexible capital and resources that only such a community can collectively provide. We therefore invite you to join us in this new phase of community creation.

40 Nina Chestney, "Global Carbon Markets Value Surged to Record $851 Bln Last Year-Refinitiv," Reuters, January 31, 2022.

APPENDICES: APPENDIX A

NRCS Conservation Practice Standards Aligned with Regenerative Agriculture

NRCS Practice Standard Number	NRCS Practice Standard Name	NRCS Climate Change Mitigation Building Block
102	Comprehensive Nutrient Management Plan - Written	
106	Forest Management Plan - Written	
110	Grazing Management Plan - Written	
114	Integrated Pest Management Plan - Written	
116	Soil Health Management Plan - Written	
142	Fish and Wildlife Habitat Plan - Written	
146	Pollinator Habitat Plan - Written	
E300GCI	Grassland Conservation Initiative	
311	Alley Cropping	
313	Waste Storage Facility	
E314A	Brush management to improve wildlife habitat	
E315A	Herbaceous weed treatment to create plant communities consistent with the ecological site	
317	Composting Facility	
324	Deep Tillage	
325	High Tunnel System	
327	Conservation Cover	Soil Health
E327A	Conservation cover for pollinators and beneficial insects	
E327B	Establish Monarch butterfly habitat	
328	Conservation Crop Rotation	Soil Health
E328A	Resource conserving crop rotation	
E328B	Improved resource conserving crop rotation	
E328E	Soil health crop rotation	
E328F	Modifications to improve soil health and increase soil organic matter	
E328J	Improved crop rotation to provide benefits to pollinators	
E328L	Leaving tall crop residue for wildlife	

329	Residue and Tillage Management, No Till	Soil Health
E329A	No till to reduce soil erosion	
E329D	No till system to increase soil health and soil organic matter content	
330	Contour Farming	Soil Health
331	Contour Orchard and Other Perennial Crops	
332	Contour Buffer Strips	Soil Health
340	Cover Crop	Soil Health
E340A	Cover crop to reduce soil erosion	
E340B	Intensive cover cropping to increase soil health and soil organic matter content	
E340C	Use of multi-species cover crops to improve soil health and increase soil organic matter	
E340D	Intensive orchard/vineyard floor cover cropping to increase soil health	
E340E	Use of soil health assessment to assist with development of cover crop mix to improve soil health	
E340F	Cover crop to minimize soil compaction	
E340H	Cover crop to suppress excessive weed pressures and break pest cycles	
342	Critical Area Planting	
344	Residue Management - Seasonal	
345	Residue and Tillage Management, Reduced Till	Soil Health
E345A	Reduced tillage to reduce soil erosion	
E345D	Reduced tillage to increase soil health and soil organic matter content	
346	Residue and Tillage	
366	Anerobic Digester	Livestock Partnership
367	Roofs and Covers	
372	Combustion System Improvement	
374	Farmstead Energy Improvement	
379	Multi-Story Cropping	
380	Windbreak/Shelterbelt Establishment	Agroforestry
381	Silvopasture Establishment	Agroforestry
E381A	Silvopasture to improve wildlife habitat	
382	Fence	
E382A	Incorporating “wildlife friendly” fencing for connectivity of wildlife food resources	
384	Woody Residue Treatment	
386	Field Border	Soil Health

E386A	Enhanced field borders to reduce soil erosion along the edge(s) of a field	
E386B	Enhanced field borders to increase carbon storage along the edge(s) of the field	
E386C	Enhanced field borders to decrease particulate emissions along the edge(s) of the field	
E386D	Enhanced field borders to increase food for pollinators along the edge(s) of a field	
E386E	Enhanced field borders to increase wildlife food and habitat along the edge(s) of a field	
390	Riparian Herbaceous Cover	Agroforestry
E390A	Increase riparian herbaceous cover width for sediment and nutrient reduction	
E390B	Increase riparian herbaceous cover width to enhance wildlife habitat	
391	Riparian Forest Buffer	Agroforestry
E391A	Increase riparian forest buffer width for sediment and nutrient reduction	
E391B	Increase stream shading for stream temperature reduction	
E391C	Increase riparian forest buffer width to enhance wildlife habitat	
393	Filter Strip	Soil Health
E393A	Extend existing filter strip to reduce water quality impacts	
395	Stream Habitat Improvement and Management	
E395A	Stream habitat improvement through placement of woody biomass	
E399A	Fishpond management for native aquatic and terrestrial species	
412	Grassed Waterway	Soil Health
420	Wildlife Habitat Planting	
E420A	Establish pollinator habitat	
E420B	Establish monarch butterfly habitat	
422	Hedgerow Planting	
430	Irrigation Pipeline	
441	Irrigation System, Microirrigation	
449	Irrigation Water Management	
484	Mulching	
490	Tree/Shrub Site Preparation	
E511B	Forage harvest management that helps maintain wildlife habitat cover, shelter or continuity	
512	Pasture and Hay Planting	Grazing and Pasture
E512A	Cropland conversion to grass-based agriculture to reduce soil erosion	

E512B	Forage and biomass planting to reduce soil erosion or increase organic matter to build soil health	
E512C	Cropland conversion to grass for soil organic matter improvement	
E512D	Forage plantings that help increase organic matter in depleted soils	
E512F	Establishing native grass or legumes in forage base to improve the plant community	
E512G	Native grasses or legumes in forage base	
E512H	Forage plantings that enhance bird habitat cover and shelter or structure and composition	
E512I	Establish pollinator and/or beneficial insect and/or monarch habitat	
E512J	Establish wildlife corridors to provide habitat continuity or access to water	
516	Livestock Pipeline	
528	Prescribed Grazing	Grazing and Pasture
E528A	Maintaining quantity and quality of forage for animal health and productivity	
E528B	Grazing management that improves monarch butterfly habitat	
E528C	Incorporating wildlife refuge areas in contingency plans for wildlife.	
E528D	Grazing management for improving quantity and quality of food or cover and shelter for wildlife	
E528E	Improved grazing management for enhanced plant structure and composition for wildlife	
E528G	Improved grazing management on pasture for plant productivity and health with monitoring activities	
E528J	Prescribed grazing on pastureland that improves riparian and watershed function	
E528K	Improved grazing management for soil compaction on pasture through monitoring activities	
E528L	Prescribed grazing that improves or maintains riparian and watershed function-erosion	
533	Pumping Plant	
543	Land Reclamation - Abandoned Mined Land	
544	Land Reclamation - Currently Mined Land	
548	Grazing Land Mechanical Treatment	
550	Range Planting	Grazing and Pasture
557	Row Arrangement	
561	Heavy Use Area Protection	
575	Trails and Walkways	
578	Stream Crossing	

580	Streambank and Shoreline Protection	
E580A	Stream corridor bank stability improvement	
E580B	Stream corridor bank vegetation improvement	
585	Stripcropping	Soil Health
589C	Cross-Wind Trap Strips	
590	Nutrient Management	Nitrogen Management
592	Feed Management	
595	Pest Management Conservation System	
601	Vegetative Barrier	Soil Health
603	Herbaceous Wind Barriers	Soil Health
612	Tree/Shrub Establishment	Agroforestry
E612B	Planting for high carbon sequestration rate	
E612C	Establishing tree/shrub species to restore native plant communities	
E612D	Adding food-producing trees and shrubs to existing plantings	
E612E	Cultural plantings	
E612G	Tree/shrub planting for wildlife food	
614	Watering Facility	
632	Solid/Liquid Waste Separation Facility	
634	Waste Transfer	
643	Restoration of Rare or Declining Natural Communities	
E643B	Restoration and management of rare or declining habitat	
645	Upland Wildlife Habitat Management	Agroforestry
649	Structures for Wildlife	
650	Windbreak and Shelterbelt Renovation	Agroforestry
655	Forest Trails and Landings	
657	Wetland Restoration	
659	Wetland Enhancement	
666	Forest Stand Improvement	
E666A	Maintaining and improving forest soil quality	
E666D	Forest management to enhance understory vegetation	
E666H	Increase on-site carbon storage	
E666L	Forest Stand Improvement to rehabilitate degraded hardwood stands	
672	Energy Efficient Building Envelope	
808	Soil Carbon Amendment	

APPENDIX B

Investor Metrics on the Social and Environmental Impact of Sustainable Agriculture

Adapted from the Global Impact Investing Network's Navigating Impact Project on Sustainable Agriculture, published 2021

CLIMATE RESILIENCE

Soil Health Practices	Indicates which sustainable agriculture best practices the organization implemented to maintain and enhance soil health of agricultural lands during the reporting period.	OI1047
Crop Diversity, measured through Crop Type	Total number of crop type(s) produced by the organization during the reporting period. Select from the options in the Reference List tab. (https://www.nal.usda.gov/afsic/list-alternative-crops-and-enterprises-small-farm-diversification)	PD1620
Livestock Diversity, measured through Livestock/Fish Type	Total number of livestock product types(s) produced by the organization during the reporting period. Select from the options in the Reference List tab.	PD4686
Soil Conservation Practices	Indicates which soil conservation practices the organization implemented during the reporting period.	OI6381
Climate Resilience Strategy	Indicates whether the organization implements a strategy to address the effects of climate change on the organization's operations.	OI2092
Stormwater Runoff	Volume of water generated from rain and snowmelt flowing over land directly controlled by the organization without soaking into the ground during the reporting period.	OD6737
Land Directly Controlled: Sustainably Managed	Area of land directly controlled by the organization and under sustainable cultivation or sustainable stewardship. Report directly controlled land area sustainably managed during the reporting period.	OI6912
Change in Ecosystem Services Provided	Describes the ecosystem services provided by land directly or indirectly controlled by the organization, during the reporting period.	PD8494
Pesticide Use	Amount of pesticides used during the reporting period on land area directly controlled by the organization.	OI9891
Biodiversity Assessment	Indicates whether the organization has undertaken biodiversity-related assessments to evaluate the biological diversity present on the land that is directly or indirectly controlled by the organization.	OI5929
Greenhouse Gas Emissions Mitigated	Amount of greenhouse gas (GHG) emissions mitigated by the organization during the reporting period. This should include GHG emissions reductions from direct and indirect sources.	OI5951

ECOSYSTEM HEALTH

Change in Ecosystem Services Provided	Describes the ecosystem services provided by land directly or indirectly controlled by the organization, during the reporting period.	PD8494
Soil Conservation Practices	Indicates which soil conservation practices the organization implemented during the reporting period.	OI6381
Soil Health Practices	Indicates which sustainable agriculture best practices the organization implemented to maintain and enhance soil health of agricultural lands during the reporting period.	OI1047
Pesticide Use	Amount of pesticides used during the reporting period on land area directly controlled by the organization.	OI9891
Land Directly Controlled: Sustainably Managed	Area of land directly controlled by the organization and under sustainable cultivation or sustainable stewardship. Report directly controlled land area sustainably managed during the reporting period.	OI6912
Biodiversity Assessment	Indicates whether the organization has undertaken biodiversity-related assessments to evaluate the biological diversity present on the land that is directly or indirectly controlled by the organization.	OI5929
Conservation Priority Characteristics	Describes the primary characteristics of hectares directly or indirectly controlled during the reporting period that are desirable to maintain or enhance through protection, restoration, or sustainable stewardship.	PD9009
Stormwater Runoff	Volume of water generated from rain and snowmelt flowing over land directly controlled by the organization without soaking into the ground during the reporting period.	OD6737
Number of Threatened Species	The number of threatened species present on land directly controlled by the organization during the reporting period.	PI9151
Protected Area Connectedness Assessment	Indicate whether the organization has undertaken a protected area connectedness assessment to evaluate the continuity of natural habitats as of the end of the reporting period.	OI2767

FOOD SYSTEM RESILIENCY

Social and Environmental Targets	Describes the quantifiable social and environmental targets set by the organization.	OD4091
Communities Served	Number of communities where the organization's products/services were available during the reporting period.	PI2476
Jobs in Directly Supported/Financed Enterprises	Number of full-time equivalent employees working for enterprises financed or supported by the organization as of the end of the reporting period.	PI4874
Percent Smallholder Sourcing Payments	Percentage of payments made to smallholder farmer suppliers compared to total payments made to all suppliers of the organization during the reporting period.	PI8632
Client Individuals: Smallholder	Number of unique smallholder farmer individuals who were clients during the reporting period.	PI6372
Business Innovation	Indicates whether the organization adopted or operationalized a product, internal process, technology, or financing structure that was new or not widely used in the domestic sector during the reporting period.	OI4718

Payments to Supplier Individuals: Smallholder	Value of payments made to smallholder farmers who sold to the organization during the reporting period.	PI7852
Client Individuals: Historically Marginalized	Number of unique individuals who belong to groups historically marginalized on the basis of race and/or ethnicity who were clients of the organization during the reporting period.	PI4237
Units/Volume Purchased from Supplier Individuals: Historically Marginalized	Units/volume purchased from individuals belonging to groups historically marginalized on the basis of race and/or ethnicity who sold to the reporting organization during the reporting period.	PI6646
Crop Diversity, measured through Crop Type	Total number of crop type(s) produced by the organization during the reporting period. Select from the options in the Reference List tab. (https://www.nal.usda.gov/afsic/list-alternative-crops-and-enterprises-small-farm-diversification)	PD1620
Livestock Diversity, measured through Livestock/Fish Type	Total number of livestock product types(s) produced by the organization during the reporting period. Select from the options in the Reference List tab.	PD4686
Level of Water Stress	Level of baseline water stress on land directly or indirectly managed by the organization as of the end of the reporting period.	OI2799
Social Impact Objectives	Describes the social impact objectives pursued by the organization.	OD6247

HUMAN HEALTH

Community Health Resilience and Improvement Strategy	Indicates whether the organization implemented a community health resilience and improvement strategy during the reporting period to improve health outcomes and increase the resilience of target stakeholder populations.	OI9417
Soil Health Practices	Indicates which sustainable agriculture best practices the organization implemented to maintain and enhance soil health of agricultural lands during the reporting period.	OI1047
Child Stunting Prevalence	Ratio of children within the area served by the organization who experienced stunting as of the end of the reporting period	PI3594
Pesticide Use	Amount of pesticides used during the reporting period on land area directly controlled by the organization	OI9891
Crop Diversity, measured through Crop Type	Type of crop(s) produced by the organization during the reporting period.	PD1620
Livestock/Fish Type	Type of livestock product(s) produced by the organization during the reporting period.	PD4686
Disease/Condition Addressed	Describes the diseases/conditions addressed by the organization's products or services provided during the reporting period.	PI1533
Land Directly Controlled: Treated with Pesticides	Area of land directly controlled by the organization and treated with pesticides. Report directly controlled land area treated during the reporting period.	OI2569

Land Indirectly Controlled: Sustainably Managed	Area of land indirectly controlled by the organization and under sustainable cultivation or sustainable stewardship. Report indirectly controlled land area sustainably managed during the reporting period.	PI6796
Land Directly Controlled: Cultivated	Area of land directly controlled by the organization and under cultivation. Report directly controlled land area cultivated during the reporting period.	OI1674
Quality Assurance Mechanism	Describes the quality assurance mechanisms that were in place at the organization during the reporting period.	PI3863
Hazardous Waste Avoided	Amount of hazardous waste avoided based on refurbishing/reusing/recycling as part of delivering or developing the organization's products/services during the reporting period.	PI2073
Toxic Materials	Amount of toxic materials used in the organization's manufacturing processes during the reporting period.	OI5942
Hazardous Waste	Amount of hazardous waste created by the organization's operations during the reporting period.	OI1346
Waste Produced: Total	Amount of waste created by the organization's operations during the reporting period.	OI6709
Client Spending: Health	Amount of money spent by the client on health costs during the reporting period.	PI7395

SOCIAL EQUITY

Percent Ownership by Historically Marginalized Groups	Percentage of the organization that is owned, as of the end of the reporting period, by individuals who belong to groups historically marginalized due to race and/or ethnicity.	OI7194
Percent Female/Gender Non-Binary Ownership	Percentage of the organization that is owned by female or non-binary individuals as of the end of the reporting period.	OI2840
Historically Marginalized Wage Equity	Ratio of the average wage paid for a specified position to employees of the organization who belong to groups historically marginalized on the basis of race and/or ethnicity compared to the average wage paid to employees of the organization who do not belong to these groups but have the same position during the reporting period	OI2362
Percent of Full-time Employees: Minorities/ Previously Excluded Managers	Percentage of paid full-time management employees (managers) at the organization who belong to minority or previously excluded groups as of the end of the reporting period	measured through OI3140
Percentage of Full-time Minority/Previously Excluded Employees	Percentage of paid full-time employees (managers) at the organization who belong to minority or previously excluded groups as of the end of the reporting period	measured through OI8147
Fair Compensation Policy	Indicates whether the organization has a written policy to compensate employees fairly and equitably and a system to monitor compliance with this policy.	OI3819
Diverse Representation Policy	Indicates whether the company has a written policy on diverse representation and a system to monitor compliance with this policy.	OI9485

Anti-Discrimination Policy	Indicates whether the organization has specific, written anti-discrimination policy in place for its employees and a system to monitor compliance of this policy.	OI9331
Client Individuals: Minorities/Previously Excluded	Number of unique individuals who belong to minority or previously excluded groups and were clients of the organization during the reporting period.	PI4237
Payments to Supplier Individuals: Minorities/ Previously Excluded	Value of payments made by the organization to individuals belonging to minority or previously excluded groups who sold goods or services to the organization during the reporting period.	PI7814
Non-financial Support Offered	Describes the type of non-financial support the organization offers to clients, if applicable.	PD9681
Employees Dedicated to Social and Environmental Performance	Number of full-time equivalent employees dedicated to managing social and environmental performance during the reporting period	OI6370
Fair Career Advancement Policy	Indicates whether the organization has a written policy to support progression/ promotion of employees fairly and equitably and a system to monitor compliance with this policy.	OI4884
Part-time Employees: Minorities/Previously Excluded	Number of paid part-time employees at the organization who belong to minority or previously excluded groups as of the end of the reporting period.	OI6508
Gender Ratio of Promotions	Ratio of the number of the organization's female employees promoted during the reporting period compared to the number of other employees promoted.	PI9467
Sexual Harassment Policy	Indicates whether the organization has a written policy to combat and prevent sexual harassment of employees and a system to monitor compliance with this policy.	OI9088
Worker Safety Policy	Indicates whether the organization has policies in place to monitor, evaluate, and ensure worker safety.	OI8001
Social and Environmental Performance Staff Training	Indicates whether any of the organization's employees participated in training sessions related to any aspect of environmental or social performance management during the reporting period.	OI3943
Operational Certifications	Describes the third-party certifications held by the organization that are related to its business processes and practices and that are valid as of the end of the reporting period.	OI1120
Product/Service Certifications	Describes third-party certifications for products/services sold by the organization that are valid as of the end of the reporting period.	PD2756
Investee Satisfaction Ratio	Ratio reflecting score obtained of the investor's clients who are likely to recommend the investor at the end of the reporting period, compared with those who are unlikely to recommend it.	n/a

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