Analyzing the Lasting Impacts of the Farm and Ranch Lands Protection Program

JENNIFER DEMPSEY | AUGUST 2023

American Farmland Trust
SAVING THE LAND THAT SUSTAINS US


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INTRODUCTION

The federal Farm and Ranch Lands Protection Program (FRPP) was a voluntary conservation program that provided matching funds to state and local governments, land trusts, and tribes for the purchase of permanent conservation easements to protect agricultural land from development. The USDA Natural Resources Conservation Service (NRCS) administered the FRPP from 1996 to 2014. FRPP was superseded by the Agricultural Lands Easement component of the Agricultural Conservation Easement Program (ACEP-ALE) in the 2014 Farm Bill.

Congress first authorized the Farmland Protection Program (FPP) in the 1996 Farm Bill. In 2002, lawmakers expanded entity eligibility to land trusts and NRCS changed the program's name to the Farm and Ranch Lands Protection Program to better reflect its scope.[1] Congress ultimately broadened the program's purpose in the 2008 Farm Bill beyond the original focus on topsoil to "…protect the agricultural use and related conservation values of eligible land by limiting nonagricultural uses of that land."[2] Eligible land included cropland, rangeland, grassland, pasture land, and a limited amount of forest land that contributed to the economic viability of an agricultural operation or served as a buffer. For each parcel proposed for protection, NRCS considered:

- Soil quality and land use indicated by the percent of prime, unique, and important soils and percent of cropland, pastureland, grassland, and rangeland;
- Size of the farm or ranch determined by the ratio of total acres to average farm size in the county;
- Development pressure evidenced by a decrease in the percentage of county "land in farms" as reported by the Census of Agriculture, population growth, and population density; and
- Proximity to other protected land, other agricultural operations, and agricultural infrastructure.

NRCS state staff, with advice from the State Technical Committees, developed additional criteria to reflect state priorities. The program required conservation plans for highly erodible land and certain forested parcels. NRCS invested more than $1.2 billion through FRPP, contributing to the protection of 1.1 million acres in partnership with more than 400 land protection entities nationwide.

In 2020, American Farmland Trust (AFT) initiated a multi-year effort to evaluate FRPP's effectiveness and outcomes. AFT partnered with researchers from the Natural Resources Social Science Lab at Purdue University (NRSS Lab) to design and administer a mail survey and to conduct landowner interviews. This work builds off previous research by AFT in partnership with J. Dixon Esseks at the University of Nebraska.[3,4] Like the previous studies, the research assesses whether the program is achieving its statutory purpose and delivering additional benefits. It also collects information about program participants: their path to ownership of protected land, demographic information, and the location of FRPP projects. Further, the evaluation investigates landowner motivations and satisfaction with FRPP. Surveying FRPP owners over time highlights differences between ***first-generation owners***—those who originally sold agricultural conservation easements and ***second-generation owners***—landowners who inherited or purchased protected land. Findings can inform ACEP-ALE implementation and help make the case for public investments in farmland protection.

METHODS

Sampling Frame and Survey Sample

NRCS provided a list of 4,327 participating landowners—the ***sampling frame*** or complete universe of participants—in December 2020. It included contact information and the name of the entity that holds the FRPP easement. AFT shared the landowner list with the research team in 2021 for further processing. The NRSS Lab corrected addresses and determined who should receive a questionnaire in cases where more than one name was listed as a single property contact. The research team also identified an initial sample of 2,000 participating landowners using stratified random sampling based on four geographic regions identified by the U.S. Census Bureau.[5] They determined that this sample size was sufficient for generalizing findings based on geographic region, paths to ownership of protected land, and landowner type (i.e., owner-operator and non-operating landowners).[6]

Questionnaire Development

AFT began working with the research team in 2021 to develop the questionnaire. AFT sought input from a group of advisors including NRCS and selected entities to identify project goals and prioritize key research questions. The research team also used questions from the prior evaluations of the FRPP completed by AFT and the University of Nebraska.[7,8] The NRSS Lab finalized the survey in February 2022.

The survey included five types of questions:

- Closed questions with a single response;
- Closed questions with multiple responses;
- Questions that used a five-point scale to rate responses;
- Open questions (numeric); and
- Open-ended questions with space for text responses.

The research team divided the questionnaire into 12 sections. Sections I and II included questions about current land use and the level of involvement in agriculture or land management decisions. Participants were asked to describe their path to owning protected land. First-generation owners were asked about their motivations, experience participating in the program, and the proportion of proceeds invested in the farm or ranch.

Sections III through V included questions for *first-generation owners* about changes initiated after selling the easement, ranging from the adoption of conservation practices to actions that improved farm viability. Owners also were asked to rate the importance of aspects of program participation in making these changes.

Sections VI through VIII included questions for *second generation-owners*. Participants were asked about their experience acquiring protected land, their relationship to the first-generation owners, and their reasons for buying protected land. Additionally, these sections contained questions about changes initiated after acquiring protected land and the importance of aspects of program participation in making these changes.

Sections IX and X included questions for all owners about the easement holding entities, owners' management goals, and satisfaction with the FRPP. Sections XI and XII captured demographic information and, if applicable, data about others involved in management decisions. A final question asked respondents to provide contact information if they were interested in a follow-up interview.

Data Collection

The NRSS Lab conducted the survey between March and September 2022. The research team sent an advance letter to 2,000 participants in early March. The letter introduced the study, provided a unique identifier (ID), and supplied directions for completing the questionnaire online. Survey instructions directed the landowner who makes most of the decisions about the protected land to complete the survey, therefore responses represent the principal decision-maker for each protected parcel. At the end of March, the NRSS Lab sent a hardcopy version to individuals who did not complete the online survey. A follow-up postcard was mailed in mid-April with instructions for completing the questionnaire online and an additional hard copy of the questionnaire was sent in mid-June. The NRSS Lab sent a final mailing to individuals who had not responded by the end of July and closed the survey in mid-September.

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Response Rate

The overall response rate was 28 percent. Response rates above 20-25 percent are acceptable in social science research.[9] Owners submitted 352 hardcopy surveys and 150 online surveys. The NRSS Lab received 502 responses out of 1,778 successfully delivered surveys; 222 questionnaires could not be delivered.[10] In responding to the first question, 37 survey recipients said they did not own land protected by an agricultural conservation easement purchased with FRPP funds. Some confirmed through comments that they own protected land, but they were not aware that the project had used FRPP funding. A small number of recipients had recently sold their protected land. This resulted in a smaller number of total possible responses—465 owners—for questions asked of all respondents. The actual number of responses for each question varies due to skip patterns and the fact that not all respondents answered all questions. The regional breakdown of survey responses tracks the distribution of program participants from the sampling frame and the survey sample. Thus, results can be generalized to all FRPP participants. Responses also were representative by NRCS region (Table 1 and Figure 1).

Survey Analysis

The NRSS team summarized results in descriptive reports and presented data in a series of tables with labels referencing the corresponding survey question.[11,12] For all types of questions, the research team calculated the percentage of respondents that selected each answer. For questions that allowed multiple responses, percentages may add up to more than 100 percent. The team calculated means and standard deviations based on the rating scale used (i.e., 1 through 5, but excluded non-numeric options including not applicable and do not know).

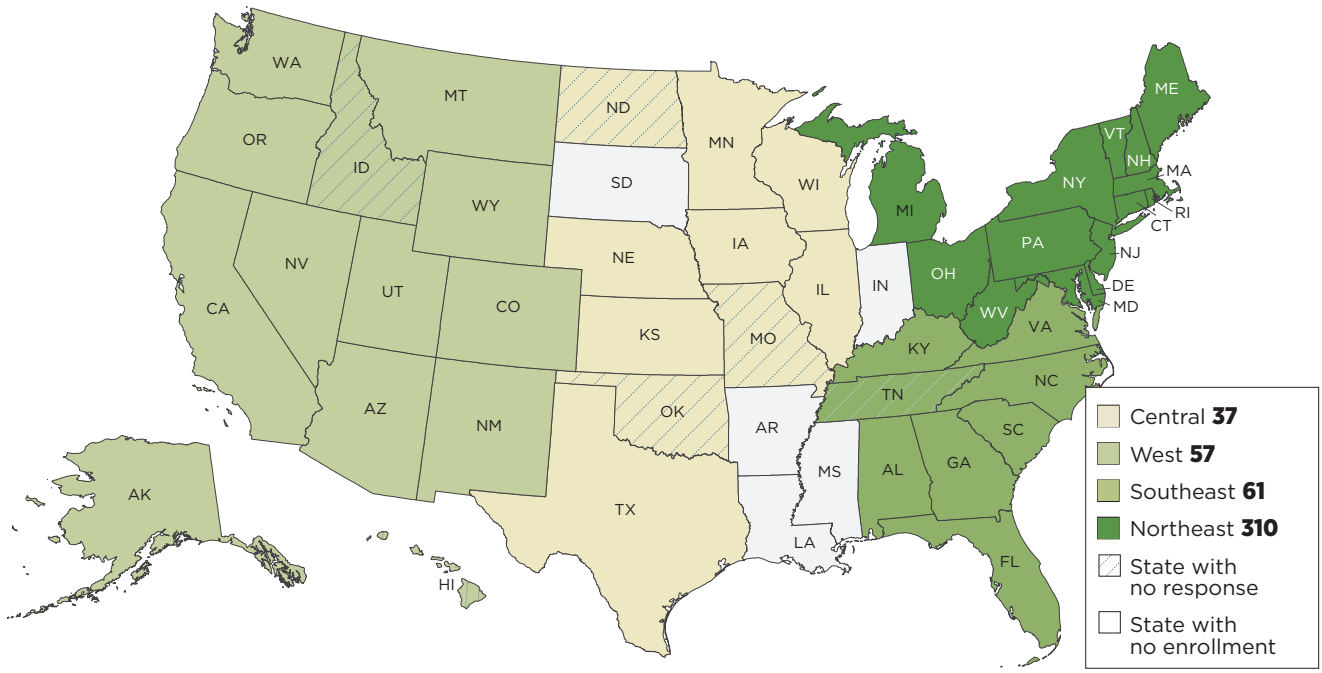
TABLE 1. SURVEY RESPONSES AND SURVEY SAMPLE BY NRCS REGION

NRCS REGION	SURVEY RESPONSES		SURVEY SAMPLE	
	#	%	#	%
Central	37	8%	117	6%
Northeast	310	67%	1,454	73%
Southeast	61	13%	194	10%
West	57	12%	235	12%

Spatial Analyses

AFT completed several spatial analyses to complement the survey results. AFT used the National Easements Geodatabase (NEG) and point data from the National Easement Staging Tool provided by NRCS to show the geographic extent of responding FRPP participants. AFT was able to match the boundaries for 404 survey respondents. AFT staff combined data from the National Conservation Easement Database (NCED, June 2022 update), the Protected Areas Database of the United States 3.0 (PAD-US,[13] July 2022 update) and the Protected Agricultural Lands Database (June 2022) into one protected areas data layer. This showed the proximity of FRPP projects to other protected lands. Lastly, AFT used spatial data from *Farms Under Threat: The State of the States*[14] to assess the degree of threat in counties with FRPP projects. AFT compared the acres and percentage of agricultural land converted to development between 2001 and 2016 to the amount of land lost in all counties in the state.

FIGURE 1. RESPONSE BY NRCS REGION

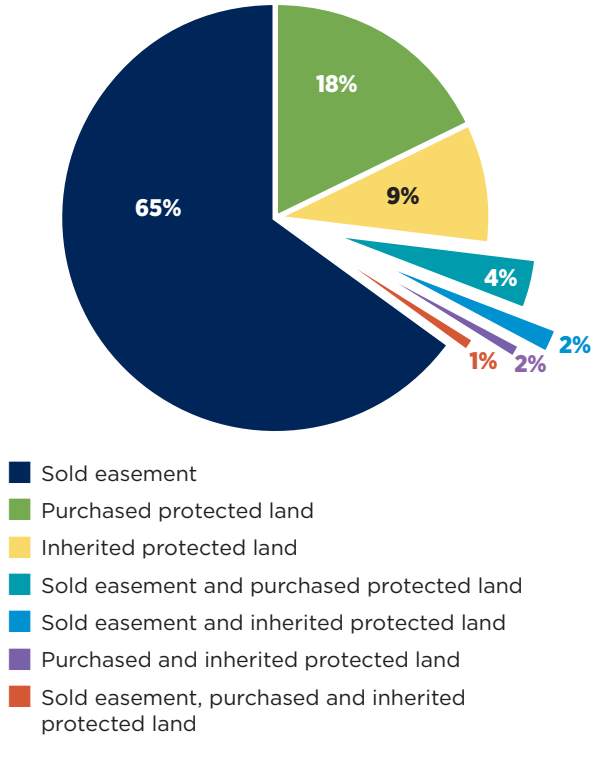


SURVEY RESPONDENTS

FRPP Landowners

Most FRPP owners sold easements to protect their land: 65 percent of respondents are *exclusively* first-generation owners, and an additional 7 percent sold easements *and* acquired FRPP land by purchase or inheritance. Twenty-eight percent are *exclusively* second-generation owners, meaning they acquired protected land through purchase, inheritance, or a combination of the two and had not sold an easement (Figure 2).

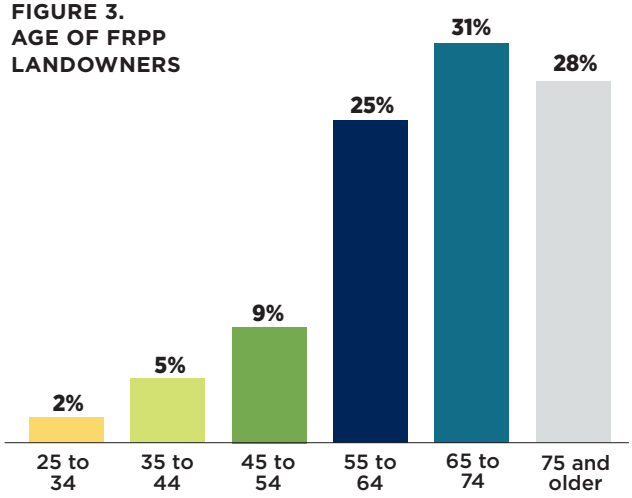
FIGURE 2. PATHWAYS TO OWNERSHIP



Seventy-nine percent of all respondents identify as male and 21 percent as female. This breakdown is slightly different among second-generation owners: 78 percent identify as male, and 22 percent as female. The proportion of owners identifying as male is significantly higher among operators. For this subset, 84 percent identify as male and only 16 percent as female. However, 55 percent of respondents to the demographic questions said that someone else contributes to management decisions. These owners identified 33 percent of the other contributors as female.

Sixty-five percent of respondents are active farmers or ranchers (i.e., owner-operators) and 35 percent identify as non-operating landowners. The average age of all respondents is 68. Fifty-nine percent are 65 or older; 28 percent are 75 and older. Of all respondents, only 14 percent are 35 to 54 and just 2 percent are younger than 35. On average, second-generation owners are younger than first-generation owners—58.8 compared to 68.9 years. In addition, owner-operators are younger on average than non-operating landowners—65.2 compared to 71.2 years (Figure 3).

FIGURE 3. AGE OF FRPP LANDOWNERS



Additionally, among the respondents who reported their race, 98 percent identify as "White." Just two landowners describe themselves as American Indian or Alaska Native, and two identify themselves as Black or African American. Separately, three owners identify as Hispanic or Latino. These numbers are too small to say anything meaningful about the differences between first and second-generation owners and owner-operators versus non-operating landowners.

FRPP-Protected Farms and Ranches

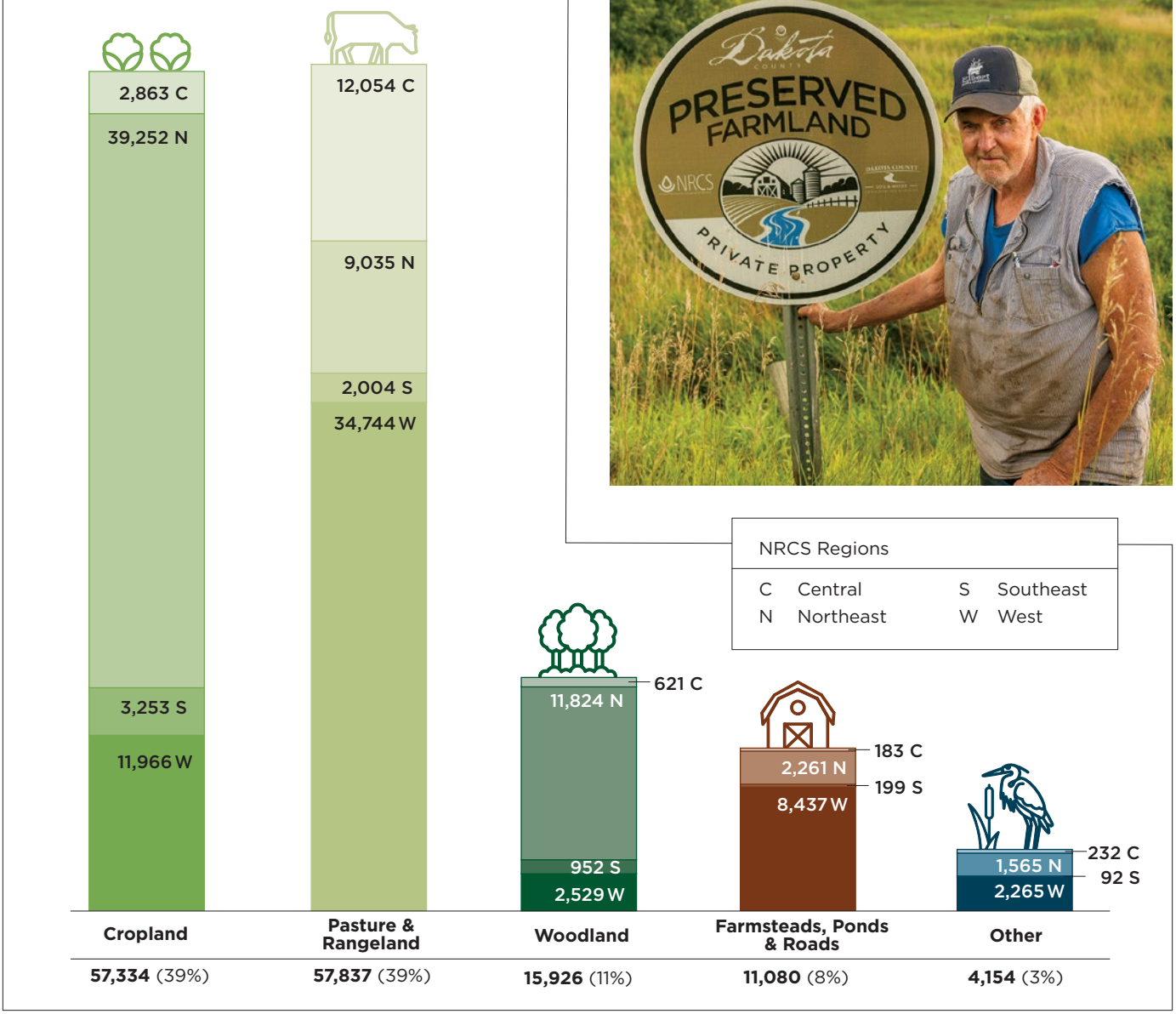
Altogether, respondents own 148,939 acres of FRPP-protected land. Two-thirds of the protected properties are in the NRCS Northeast region. The average size of protected agricultural properties across all regions was 347 acres and the median was 148 acres. On average, the largest protected properties are in the West and the smallest are in the Southeast (Table 2).

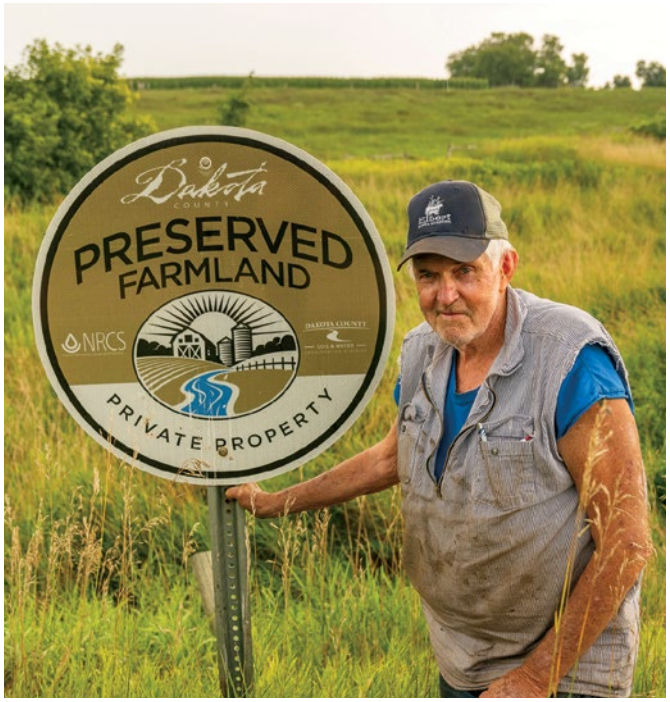
TABLE 2. AVERAGE AND MEDIAN SIZE OF FRPP-PROTECTED PARCELS BY NRCS REGION

NRCS REGION	AVERAGE SIZE (ACRES)	MEDIAN SIZE (ACRES)
Central	1,034	435
Northeast	540	170
Southeast	394	201
West	1,886	500

Owners reported that 38 percent of their protected land is cropland, 38 percent is permanent pasture or rangeland, and 8 percent is devoted to farmstead areas (Figure 4). Most of the cropland and woodland is in the Northeast and most of the pasture and rangeland and land devoted to farmstead areas is in the West.

FIGURE 4. LAND USE ON FRPP-PROTECTED PROPERTIES (ACRES)





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FINDINGS

The FRPP Saves Land for Agriculture

Spatial analyses and survey results confirm that FRPP protected threatened agricultural land and keeps it available and in agricultural use. AFT found that 78 percent of the protected parcels are in counties that fell above the state median for acres converted to urban and highly developed land uses or low-density residential development between 2001 and 2016; 63 percent are in counties above the state median for percent of agricultural land converted to development during the same time period. Furthermore, landowners expressed concern about development: 74 percent said they are very or extremely concerned about agricultural land in the area being developed to non-farm uses and 90 percent of first-generation owners reported that they sold an agricultural conservation easement on their land to protect it from development.

In addition to protecting individual properties, the program helps assemble blocks of protected land. The spatial analysis of protected properties owned by survey respondents found that 96 percent are located within a mile of other protected lands. This includes land included in the Protected Areas Database of the United States (PAD-US), the National Conservation Easement Database (NCED), and the Protected Agricultural Land Database (PALD). Furthermore, 69 percent are adjacent to other permanently protected land or if separated by a road, within five meters.

Beyond keeping land available, FRPP keeps land in agricultural use. Landowners reported using at least 78 percent of their protected land for agricultural production (i.e., cropland and permanent pasture or rangeland). Owners reported that another 11 percent of protected acres are wooded but some owners in the Northeast noted that they manage wooded areas for maple syrup production. Eight percent is devoted to farmstead areas including farm dwellings, agricultural structures, ponds, and roads.

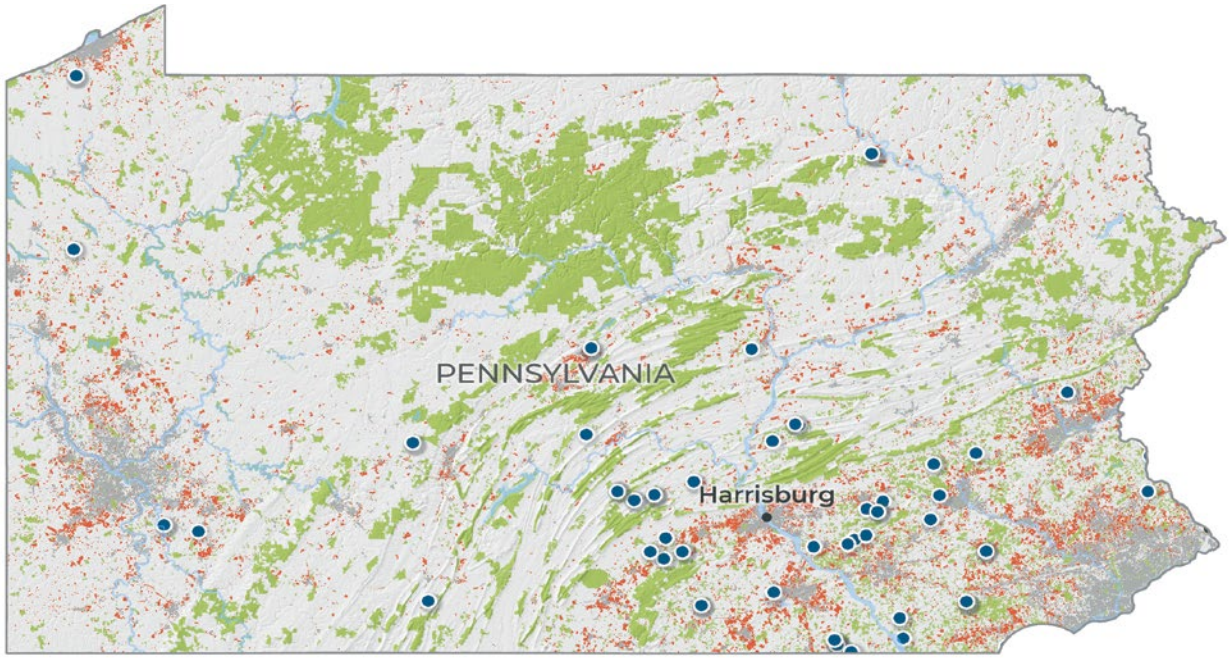
Moreover, 65 percent of current owners describe themselves as farmers or ranchers. The proportion is even higher among owners who purchased protected land—81 percent of respondents who purchased protected land, and 80 percent of individuals who purchased and inherited protected land, are operators. Indeed, relatively more operators of FRPP-protected farms fall into the top agricultural sales categories (Table 3), suggesting that owners are involved in serious commercial enterprises.[15]

Finally, even among non-operating landowners, 68 percent rent their protected acres for agriculture (23,101 acres). All told, 82 percent of owners are farmers and ranchers *or* rent their protected land for agriculture, confirming that protected land stays in active production.

TABLE 3. AGRICULTURAL INCOME OF FRPP PARTICIPANTS COMPARED TO ALL PRODUCERS

	PERCENTAGE OF OPERATORS REPORTING GROSS FARM INCOME						
	LESS THAN $10,000	$10,000 TO LESS THAN $50,000	$50,000 TO LESS THAN $100,000	$100,000 TO LESS THAN $250,000	$250,000 TO LESS THAN $500,000	$500,000 AND ABOVE	CHOSE NOT TO ANSWER
Survey Respondents	12.5%	30.8%	11%	9.7%	16.4%	12.5%	7%
2017 Census	55.5%	20%	6.2%	6.6%	4.4%	7.4%	Not applicable

FIGURE 5. FRPP PROJECTS ARE IN THREATENED PLACES AND HELP CREATE BLOCKS OF PROTECTED LAND



- FRPP landowner survey responses
- Protected land
- Urban and highly developed (UHD) lands & Roads
- Conversion of Agricultural Land to Urban and highly developed (UHD) and low-density residential (LDR) land (2001–2016)

The FRPP Helps Farmers and Ranchers Acquire Land

Participants used proceeds from the sale of their easements to secure land. Forty-three percent of first-generation owners reported expanding their operation by "buying land, planting more acres, or adding livestock" after selling their easement and 65 percent used FRPP proceeds to do it. Additionally, 48 percent of first-generation owners paid off loans on agricultural land they already owned after the sale of their easement and 77 percent of this group said the proceeds were very or extremely important in enabling this activity.

FRPP also helps make land more affordable at the outset. Among second-generation owners who purchased protected land, 32 percent said they did so because it cost less than land without an easement. Notably, 14 owners who purchased protected land are young or beginning farmers.

Further, FRPP helps facilitate farm transfers. Since the 2013 study of FRPP participants, there was an 86 percent increase in the percentage of exclusively second-generation owners, indicating that FRPP-protected land is changing hands. Half of second-generation owners are related to the person who protected the land. More telling, 52 percent of respondents have identified a successor who will manage their protected land as a farm or ranch. Large percentages of this group reported that core features of the FRPP helped their planning

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efforts: 72 percent ranked the protected status of the land and 39 percent ranked proceeds from the sale of the easement as very or extremely important. Additionally, 63 percent of owners who said transferring their land to another farmer or rancher was an important goal reported that the program was either moderately, very, or extremely helpful in accomplishing it.

The FRPP Encourages Conservation

Survey results show high rates of conservation planning and practice adoption among FRPP owners. Sixty-one percent of responding owners have an NRCS conservation plan for their protected land. Beyond this, 93 percent of respondents reported the application of at least one conservation practice since protecting their land or acquiring protected land and 78 percent had applied at least three (Table 4). Rates of adoption are higher among FRPP owners than all producers for the few practices tracked in the 2017 Census of Agriculture.[16] In general, we found that adoption rates are higher among owner-operators than non-operators.[17]

The most frequently initiated practices include: conservation tillage,[18] nutrient management, buffers along streams and field edges, and cover crops. Owners also began practices to protect habitat and water quality after protecting their land or acquiring protected land (Table 5). First-generation

TABLE 4. NUMBER OF PRACTICES ADOPTED BY FRPP OWNERS

NUMBER OF PRACTICES ADOPTED	ALL OWNERS (N = 388)	PERCENT OF ALL OWNERS	OWNER-OPERATORS (N = 255)	PERCENT OF OWNER-OPERATORS	NON-OPERATING LANDOWNERS (N = 133)	PERCENT OF NOLS
At least one	362	93%	245	96%	117	88%
At least two	335	86%	230	90%	105	79%
At least three	303	78%	214	84%	89	67%
No practices	26	7%	10	4%	16	12%

owners had statistically significant higher rates of adoption for nutrient management; buffers; grassed waterways; ponds, sedimentation basins or wells; rangeland management; and drainage. Second-generation producers had higher rates of adoption that were statistically significant for integrated pest management and organic production or transitioning to organic production.

Results suggest several ways the FRPP supports practice adoption. Most owners identified a fundamental feature of program participation—permanent protection—as an important encouragement. When asked to rate the importance of different aspects of the FRPP in implementation of conservation practices, 81 percent of first-generation and 72 percent of second-generation owners said the protected status of the land was very or extremely important. Funds from easement sales also help owners. Thirty-five percent of first-generation owners reported using proceeds to adopt practices. Moreover, 50 percent of owners who sold easements rated proceeds as very or extremely important to practice adoption. Owners also confirmed that interactions with land protection professionals and NRCS field staff encouraged adoption. Forty-six percent of first-generation respondents and 21 percent of second-generation owners said their relationship with the entity that holds their easement is very or extremely important. At the same time, 30 percent of first-generation owners and 18 percent of second-generation owners reported that increased interactions with NRCS are very or extremely important to practice adoption.

TABLE 5. PRACTICES INITIATED BY FRPP OWNERS

CONSERVATION PRACTICE	#	% ADOPTING
Conservation tillage	**378**	**63**
Nutrient management practices	**368**	**59**
Buffers along streams or field edges	**385**	**59**
Cover crops or green manure crops	**378**	**57**
Rotational grazing	**376**	**39**
Crop or livestock diversification	364	38
Grassed waterways	**368**	**37**
Cropland converted to perennial crops	**375**	**36**
Integrated pest management	369	34
Subsurface and surface drainage	368	31
Extended rotations	**372**	**31**
Compost, biochar, or other soil amendments	**371**	**31**
Pond(s), sedimentation basin(s), or well(s)	370	27
Fish and wildlife practices	366	24
Rangeland management	**360**	**21**
Irrigation	367	20
In-field buffer strips	**364**	**20**
Organic production or transition to organic	364	15
Terraces	362	8

Note: NRCS Climate-Smart Agriculture and Forestry Mitigation Activities are highlighted in bold type and green shading.

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The FRPP Spurs Investments in Agriculture

Responses demonstrate that the FRPP helps owners to expand and strengthen their operations. More than a third of all owners—37 percent—diversified or expanded their enterprise or made improvements to their land after the sale of the easement or acquisition of previously protected land. The largest proportion—43 percent—reported buying more land, planting more acres, or adding livestock. Thirty-one percent changed the type or number of crops produced or livestock raised. Others added infrastructure: 16 percent added cost-saving renewable energy facilities, including solar panels, wind turbines, geothermal heat pumps, or manure digester systems. Respondents also expanded marketing options by selling agricultural products directly to consumers or intermediaries or building on-farm retail facilities; developing processing capacity; or adding other infrastructure including greenhouses or high tunnels (Table 6).

TABLE 6. CHANGES INITIATED BY FRPP PARTICIPANTS

CHANGE	#	INITIATED CHANGE (%)
Expand operations	385	43%
Change crop or livestock type or number	383	31%
Add renewable energy facilities	384	16%
Diversify marketing options by selling produce directly to consumers	380	15%
Add processing facilities or businesses	382	10%
Install a greenhouse or high tunnel	381	9%
Diversify marketing options by selling produce to intermediaries	378	9%
Install retail facility	380	8%

Importantly, owners identified permanent protection as the chief aspect of program participation in improving the viability of their operation. When asked to rate the importance of different program features to viability, 79 percent of first-generation and 60 percent of second-generation owners said the protected status of the land was very or extremely important, giving owners the security to make long-term investments in their enterprises and land. The FRPP also provides capital for owners to invest in their operations. Seventy-two percent of owners who sold easements invested proceeds in their operation or land and 48 percent invested more than 80 percent of their earnings. Among the first-generation owners who changed their enterprise or made improvements to their land, 33 percent used easement proceeds to pay for them. In addition, 57 percent of owners who sold easements rated the money from the easement sale as very or extremely important. Lastly, 43 percent of


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second-generation owners identified access to less expensive land as a very or extremely important way the program supports viability.

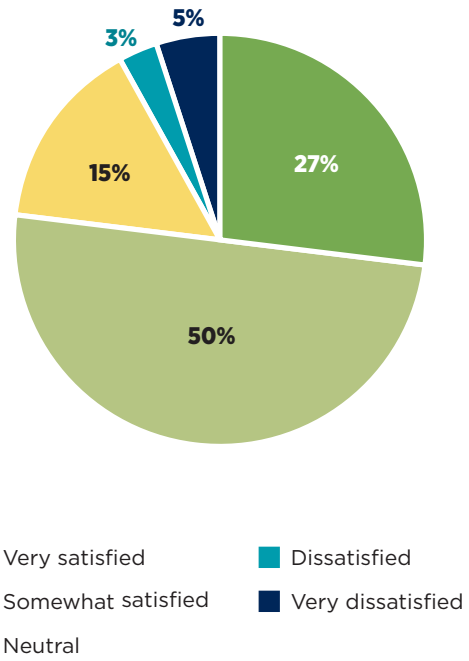
FRPP Participants Are Satisfied

A significant majority of landowners—77 percent—expressed satisfaction with the FRPP program reporting that they are satisfied or very satisfied. In contrast, just 8 percent are dissatisfied or very dissatisfied (Figure 6). Additionally, 78 percent were satisfied or very satisfied with the entity holding their easement. Program satisfaction prompted landowners to protect more land. Thirty-nine percent sold or donated another conservation easement. Sixty-five percent talked to other farmers or ranchers and 23 percent talked to family members about selling an easement.

Respondents offered additional written comments about their level of satisfaction. The top positive comment—mentioned by 42 owners—was that entities were knowledgeable and helpful. The chief complaint—noted by 21 respondents—was the lengthy process to sell an easement. Just 13 landowners left comments indicating that they regret selling their easements. A few are frustrated by restrictions on uses and activities on their protected land. Ten owners reported problems with NRCS and among these a handful specified that they had experienced delays in communication.

The survey examined landowner motivations for participating in the program. Ninety percent of landowners who sold easements did so to protect their land from development. Seventy-one percent were motivated by the chance to be compensated for permanently protecting their land. Two-thirds wanted to preserve rural character. When asked to what extent FRPP has helped accomplish these goals, 68 percent of owners said FRPP has been very or extremely important in protecting land from development and 50 percent said very or extremely important in preserving rural character.

FIGURE 6. LANDOWNER SATISFACTION WITH FRPP



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DISCUSSION

Productive farmland and ranchland is an essential and irreplaceable resource. Food production, and therefore long-term food security, depends on its availability. Working lands contribute directly to local economies through sales of farm goods and job creation and support related businesses including seed and input suppliers, equipment dealers, veterinarians, and food processors. Agricultural land helps balance local budgets, generating more in revenues than it costs in community services.[19] In addition, well-managed farmland and ranchland provides habitat for wildlife, helps control flooding and wildfires, absorbs and filters stormwater, aids groundwater recharge, and can reduce greenhouse gas emissions and sequester carbon.

Despite its many values, agricultural land is threatened by development. Since 1982, urbanization and poorly planned development have resulted in the conversion of about 26 million acres of agricultural land—an area larger than the state of Kentucky.[20] Development disproportionately has occurred on the nation's best cropland—prime soils which require fewer inputs and are less prone to erosion. Land that grows our food is especially vulnerable. Ninety percent of fruits, tree nuts and berries, and 81 percent of vegetables are produced in urban-influenced counties where development pressure is most intense.[21]

State and local governments have led the response to farmland conversion by creating a range of policies and programs. Agricultural conservation easements have been a key approach. Suffolk County, New York launched the first public easement acquisition program in 1974. Today, 28 states and more than 100 local governments administer purchase agricultural conservation easement (PACE) programs.[22,23] The longest-standing and most effective PACE programs are clustered in the Northeast, resulting in a higher concentration of FRPP projects in this region. Private land trusts also protect farmland and ranchland land by directly acquiring or helping other entities acquire land or conservation easements. Altogether, public PACE programs and private land trusts, with funding from the federal farmland protection programs—FRPP and ACEP-ALE—have protected about 7.7 million acres of farmland and ranchland nationwide.[24]

This evaluation shows that the FRPP protected threatened agricultural land and kept it in active agricultural use, fulfilling its statutory purpose. The program protected threatened agricultural land and kept it in active agricultural use. FRPP-protected parcels are in places that experienced relatively high rates of conversion. In addition, most FRPP owners are producers or rent their land for agriculture. The proportion of owners who identify as farmers or ranchers is even higher among second-generation owners. These producers manage commercial enterprises—nearly twice as many gross more than $100,000 in farm income per year compared to all farms as reported in the 2017 Census of Agriculture. Additionally, most participating landowners are satisfied with the program. They reported that FRPP helped them achieve their goals and encouraged them to protect more land or urge others to do so.

Results also show that the program spurred landowners to make changes that ensure a future for agriculture. In particular, the protected status of the land gives landowners the security and motivation to diversify and expand their operations or make improvements to their land. The survey asked respondents to rate the importance of various aspects of the FRPP to adopting conservation practices, improving viability, and planning for a farm transfer. In every case, the largest percentage of respondents reported that *the protected status of the land* was very or extremely important. Owners identified permanent protection—a fundamental feature of the FRPP—as the primary motivator. The FRPP, like other public programs and policies that stabilize the land base and support agriculture, produces a "permanence syndrome."[25] Farmers who believe that their land is safe from non-farm development feel more secure about investing in the agricultural potential of their land and the viability of the operation. These investments increase the likelihood that protected farms will be successful in the future.

Findings also demonstrate that the FRPP benefits the next generation of farmers and ranchers. Purchasers of protected land said they bought their property because it was less expensive than comparable unprotected land and 43 percent said access to more affordable land improved the viability of their enterprise. FRPP land tends to be near other protected land, which creates agricultural areas that can support diverse types of agricultural operations, sustain vital ancillary businesses, and help head off conflicting land uses. Second-generation owners tend to be farmers and are younger, on average, than first-generation owners—58.8 compared to 68.9 years. They are not, however, more diverse. Farmland protection practitioners have become more aware, and USDA has become more focused on addressing barriers to land transfer and ownership among ethnic and racial minorities. To date, few producers of color have participated in the FRPP. Among respondents who reported their race, 98 percent identified as "White." This pattern will not change on its own. Increasing diversity among FRPP owners, and ACEP-ALE participants going forward, will require intentional approaches. Education and training for FRPP entities could prepare them to facilitate transfers of FRPP-protected land to more diverse producers. New policies could help make ACEP-ALE more accessible to producers of color.

Lastly, this study shows that the FRPP encourages conservation and delivers climate benefits. Nearly all respondents reported adoption of at least one conservation practice since protecting their land or acquiring protected land and more than three-quarters applied at least three. Conservation practices adopted by FRPP participants build soil health and make farms and ranches more resilient to a changing climate. Implementing conservation practices on protected land safeguards the public investment in these activities because improvements will not be lost to development. NRCS identifies more than half of the practices listed in the survey as Climate-Smart Agriculture and Forestry (CSAF) mitigation activities—the subset of practices that deliver quantifiable reductions in greenhouse gas (GHG) emissions and/or increases in carbon sequestration.[26] FRPP owners tended to adopt practices classified as CSAF mitigation activities. These activities accounted for the top five newly adopted practices. Requirements for highly erodible land may have prompted better resource management by some owners, but most said the protected status of the enrolled land encouraged conservation practice adoption.

Taken together, the results demonstrate the FRPP's value and strengthen the case for increased funding for ACEP-ALE. Every federal dollar spent on the FRPP leveraged two dollars in landowner donations, private funds, and dollars from state and local governments.[27] The federal investment in farmland protection not only saves agricultural land from development but also delivers public benefits and catalyzes investment in the future of agriculture. It is a comprehensive response to a complex and urgent issue.

SHAWN LINEHAN

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Thank you to the 502 agricultural landowners who agreed to be surveyed and who permanently protected their land. Thank you also to the nation's farmland protection entities—state and local purchase of agricultural conservation easement programs and land trusts—that partnered with willing landowners to participate in FRPP.

American Farmland Trust is the nation's leading conservation organization dedicated to protecting farmland, promoting sound farming practices, and keeping farmers on the land. For more information, visit farmland.org or call (202) 331-7300.

The Farmland Information Center is clearinghouse for information about farmland protection and stewardship. It is a project of AFT maintained on behalf of the USDA NRCS. Visit farmlandinfo.org or call (800) 370-4879.

The Natural Resources Conservation Service is an agency within the United States Deparment of Agriculture that works with landowners through conservation planning and assistance to benefit the soil, water, air, plants and animals for productive lands and healthy ecosystems.

The Natural Resources Social Science Lab at Purdue University administers surveys, conducts interviews and interacts with people to further our understanding of the social dimensions of natural resource management and land use planning.

NOTES

1 U.S. Department of Agriculture, Natural Resources Conservation Service. (2009). *Farm and Ranch Lands Protection Program Programmatic Environmental Assessment.*

2 The purpose of the program is to protect "…the agricultural use and related conservation values of eligible land by limiting nonagricultural uses…" (16 U.S.C.§3838i).

3 Esseks, J. D., Nelson, J. M., & Stroe, M. E. (2006). *Evaluation of USDA's Farm and Ranch Lands Protection Program (FRPP) through Surveying a Random Sample of Owners of Agricultural Land whose Development Rights were Sold in Part through the FRPP.* Lincoln: Center for Great Plains Studies, University of Nebraska-Lincoln.

4 Esseks, J. D., Schilling, B. J., & Hahn, A. (2013). *Impacts of the federal Farm and Ranch Lands Protection Program: An Assessment Based on Interviews with Participating Landowners.* Lincoln: Center for Great Plains Studies, University of Nebraska-Lincoln.

5 Census regions divide the United States into four geographic areas: Northeast, Midwest, South and West. A map of Census Regions and Divisions is available at: https://www.census.gov/geographies/reference-maps/2010/geo/2010-census-regions-and-divisions-of-the-united-states.html

6 Olechnowicz, C., Henry, R., Ranjan, P., and Prokopy, L. (2022). *A Social Science Evaluation of Participation in the Federal Farm and Ranch Lands Protection Program.* West Lafayette: Purdue University.

7 Esseks, J. D., Nelson, J. M., & Stroe, M. E. (2006). *Evaluation of USDA's Farm and Ranch Lands Protection Program (FRPP) through Surveying a Random Sample of Owners of Agricultural Land whose Development Rights were Sold in Part through the FRPP.* Lincoln: Center for Great Plains Studies, University of Nebraska-Lincoln.

8 Esseks, J. D., Schilling, B. J., & Hahn, A. (2013). *Impacts of the federal Farm and Ranch Lands Protection Program: An Assessment Based on Interviews with Participating Landowners.* Lincoln: Center for Great Plains Studies, University of Nebraska-Lincoln.

9 Olechnowicz, C., Henry, R., Ranjan, P., and Prokopy, L. (2022). *A Social Science Evaluation of Participation in the Federal Farm and Ranch Lands Protection Program.* West Lafayette: Purdue University.

10 To improve the response, AFT notified NRCS state offices and entities about the project. We reached out to all of the easement holders to confirm landowner contact information. We were only able to verify or update about a third of the original landowner list. The undeliverable surveys either had bad addressed or the intended recipient no longer owned the land.

11 Olechnowicz, C., Henry, R., Ranjan, P., and Prokopy, L. (2022). *A Social Science Evaluation of Participation in the Federal Farm and Ranch Lands Protection Program.* West Lafayette: Purdue University.

12 Olechnowicz, C., Ranjan, P., and Prokopy, L. (2022). *A Social Science Comparison of 1st and 2nd Generation Landowners Participating in the Federal Farm and Ranch Lands Protection Program.* West Lafayette: Purdue University.

13 U.S. Geological Survey Gap Analysis Project, 2022, Protected Areas Database of the United States (PAD-US) 3.0: U.S. Geological Survey data release, https://doi.org/10.5066/P9Q9LQ4B.

14 Freedgood, J., M. Hunter, J. Dempsey and A. Sorensen. (2020). *Farms Under Threat: The State of the States.* Washington, D.C: American Farmland Trust.

15 The average size of protected agricultural properties across all regions was 347 acres and the median was 148 acres. In comparison, the 2017 Census of Agriculture reported that the average farm size was 441 acres, and the median was 75 acres.

16 There are few points of comparison but according to 2017 Census of Agriculture, just 34% of farms with cropland reported using no-till or reduced tillage and only 10% reported planting cover crops.

17 On average, operator-owners adopted 6.4 practices, while NOLs adopted 5.1, which was a significant difference at the $p<0.01$ level.

18 Conservation tillage includes no-till, reduced tillage, and strip till systems.

19 Farmland Information Center. (2016). *Cost of Community Services Studies.* Northampton, MA: American Farmland Trust.

20 U.S. Department of Agriculture. (2019). *Summary Report: 2017 National Resources Inventory.* Natural Resources Conservation Service, Washington, DC, and Center for Survey Statistics and Methodology, Iowa State University, Ames, IA.

21 American Farmland Trust's Farmland Information Center, using data from USDA, National Agricultural Statistics Service, 2017 Census of Agriculture and USDA Economic Research Service 2013 Urban Influence Codes.

22 Farmland Information Center (2022). *Status of State Purchase of Agricultural Conservation Easement Programs.* Northampton, MA: American Farmland Trust.

23 Farmland Information Center (2020). *Status of Local Purchase of Agricultural Conservation Easement Programs.* Northampton, MA: American Farmland Trust.

24 Preliminary data from the Farmland Information Center's 2022 survey of land trusts that protect agricultural land.

25 Sherman, R., Millshaw, S., Freedgood J. and Wagner B. (1998). *Investing in The Future of Agriculture: The Massachusetts Farmland Protection Program and the Permanence Syndrome.* Northampton, MA: American Farmland Trust.

26 U.S. Department of Agriculture, Natural Resources Conservation Service. (2023). *Climate-Smart Agriculture and Forestry (CSAF) Mitigation Activities List FY2023.* Accessed at: https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/climate/climate-smart-mitigation-activities. According to NRCS, these practices deliver quantifiable reductions in greenhouse gas emissions and/or increases in carbon sequestration.

27 U.S. Department of Agriculture, Natural Resources Conservation Service. (2009). *Farm and Ranch Lands Protection Program Programmatic Environmental Assessment.*

FRONT COVER PHOTO: G LESLIE SWEETNAM, BACK COVER:ALLEN BIRNBACH (BACKGROUND) AND SHAWN LINEHAN (LEFT AND RIGHT INSET), THIS PAGE: SHAWN LINEHAN

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