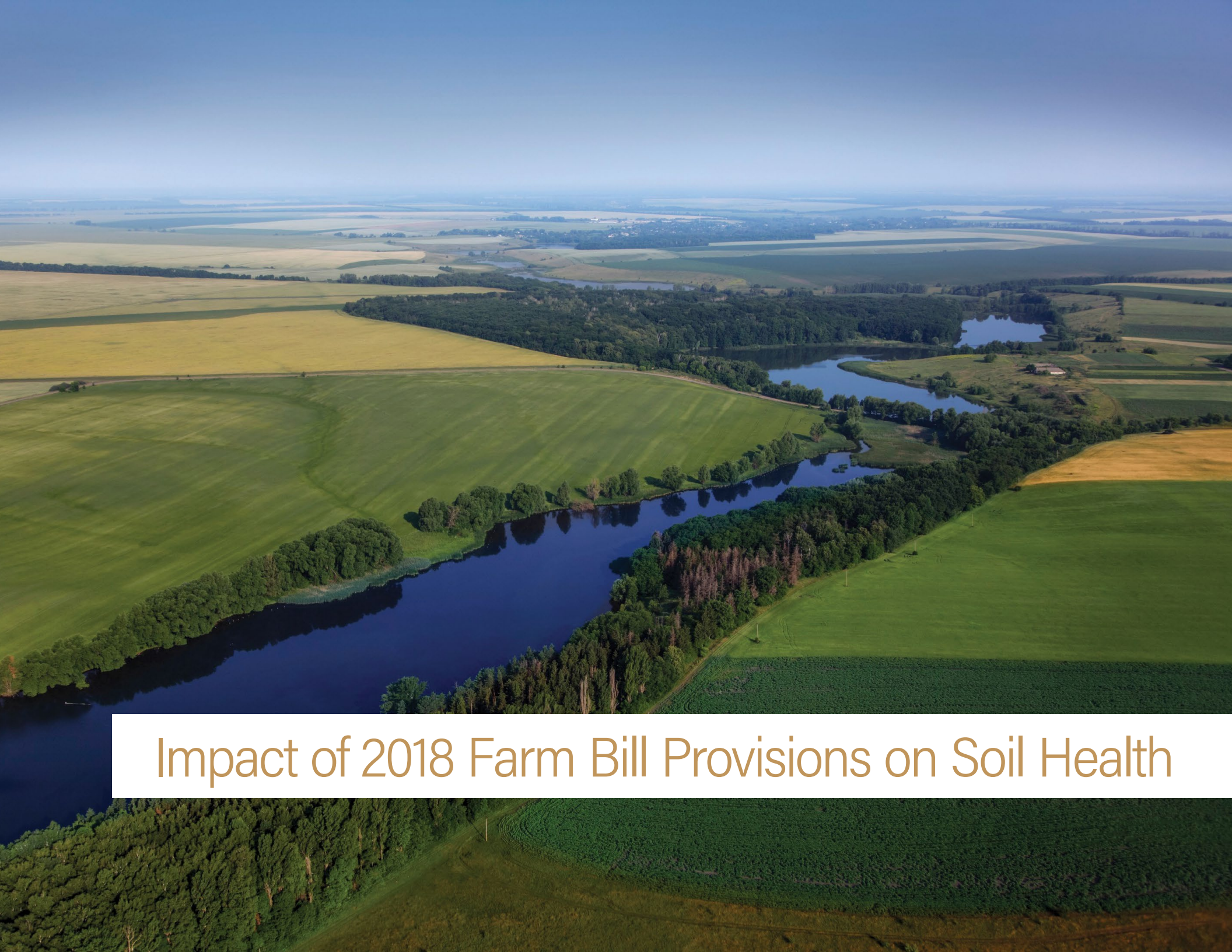

Impact of 2018 Farm Bill Provisions on Soil Health

— Franklin D. Roosevelt, Letter to all State Governors on a Uniform Soil Conservation Law, February 26, 1937.

SOIL HEALTH INSTITUTE

NATIONAL SUSTAINABLE AGRICULTURE COALITION

Impact of 2018 Farm Bill Provisions on Soil Health

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Introduction

The Agriculture Improvement Act of 2018, otherwise known as the 2018 Farm Bill, includes a wide variety of provisions highlighting the importance of soil health across U.S. farmland. Through these provisions Congress demonstrates that they recognize the necessity of protecting and enhancing the nation's soils. Restoring and maintaining soil health is imperative for food, fuel, and fiber production. Healthy soils also help protect our nation's water supplies and maintain and enhance other important ecosystem services such as carbon sequestration.

The provisions in the 2018 Farm Bill that impact soil health fall into a few functional categories. Many of the provisions provide structural change that prioritize soil health or benefit soil health through improved program administration. Some provisions provide incentives to farmers or ranchers to implement practices that aid in soil restoration. Provisions in crop insurance and research also aid in the promotion and protection of soil health. Other changes in the 2018 Farm Bill include new or improved land protection programs; mandates for data collection and reporting on soil health; and enhancements to programs that provide access to land and soil health support for beginning, socially disadvantaged, and veteran farmers and ranchers.

Several of the most important changes are detailed in the following report, with a comprehensive list provided in the accompanying table here: **Table 1. Summary of 2018 Farm Bill Provisions that Impact Soil Health**.

Prioritization and Structural Changes to Benefit Soil Health

Most provisions in the 2018 Farm Bill associated with soil health represent policy changes to pre-existing programs, herein referred to as structural changes. These structural changes include changes to definitions, clarification of terms, policy fine-tunings, and administrative changes (see **Table 1** for complete list).

Three additions with particularly significant potential to benefit soil health include: designating soil health as a priority in managing the Conservation Stewardship Program (CSP), a new soil health demonstration trial within the Conservation Innovation Grants (CIG) portion of the Environmental Quality Incentives Program (EQIP), and enhanced Conservation Reserve Program (CRP) end-of-contract considerations.

Specifically, USDA-NRCS is directed to manage CSP to enhance soil health to the greatest extent possible. Different avenues exist for addressing this directive, such as modifying CSP application and ranking criteria, and aligning payment schedules to reflect relative benefits of specific soil health promoting practices. In addition, Congress directed NRCS to increase payment rates for three key soil health practices: cover cropping, resource-conserving crop rotations, and advanced grazing systems

including management-intensive rotational grazing (see more below). Regardless of how NRCS implements soil health as a major CSP priority, this provision is a prominent one demonstrating Congress' new emphasis on the critical importance of protecting and conserving our nation's soils.

Next, under the Conservation Innovation Grants (CIG) On-Farm Conservation Innovation Trials, $10 million a year in federal grant money is dedicated to soil health demonstration trials. Funding through CIG provides support to producers to execute practices to increase soil health and soil carbon sequestration. In addition, funds help establish measurement protocols in assessing changes in soil health and soil carbon after implementation of soil health promoting conservation practices. USDA is also directed to conduct a study on changes in soil health from the application of conservation practices and then report the results back to Congress annually. Collectively, these efforts will help inform producers on the benefits of conservation practices to soil health and support greater practice adoption.

The 2018 Farm Bill also reduced a barrier to transitioning land in expiring CRP contracts to EQIP or CSP. This provision allows landowners of an expiring CRP contract to enroll in EQIP or CSP up to one year before the contract end date. Landowners are also permitted to begin organic certification within three years of the expiring contract. These CRP end-of-contract considerations greatly increase a farmer's ability to implement conservation practices on working lands once the contract expires. This will help protect the land the CRP contract aided to restore through overlapping financial and technical support for conservation efforts. The soil ecosystem restored through years under the Conservation Reserve Program is less likely to be managed in ways that reduce soil health with this new provision in place.

Increased Incentives for Soil Health Conservation Practices

Incentives for conservation practices are necessary for many producers to consider practice adoption (Claassen, Duquette, & Smith, 2018; Prokopy, Towery, & Babin, 2014). Provisions for financial incentives are added to the 2018 Farm Bill to encourage adoption of soil health promoting practices such as higher payments for certain practices and expanded eligible conservation practices under EQIP and CSP.

Changes made in the operation of CSP focus efforts and funding on soil health promoting practices. Provisions for new incentives under CSP authorize payments above 100% of practice costs and income forgone for a few soil health improving practices. Producers performing activities pertaining to cover crops may receive a minimum 125% of the determined annual payment. Similarly, CSP payments may be paid at a minimum 150% of the determined annual payment amount for adoption or improvement of a resource-conserving crop rotation, and for advanced grazing management (including management-intensive rotational grazing).

These larger financial incentives to implement cover crops, soil benefiting crop rotations, and grazing management are important because these three practices can significantly benefit soil health. Cover crops increase vegetative soil coverage, reduce soil erosion, increase water infiltration, increase soil organic matter, increase aggregate stability, and provide many other soil ecosystem benefits (Kaspar, Singer, Hatfield, & Sauer, 2011; Snapp, Swinton, Labarta, Mutch, & al, 2005). Crop rotations may help

to interrupt plant pest pressures, reduce soil erosion, increase soil organic matter, increase soil microbial biodiversity, and many more conservation benefits (Karlen, Hurley, Andrews, & Cambardella, 2006; Liebig, Tanaka, Krupinsky, Merrill, & Hanson, 2007). Grazing management improves water infiltration, promotes vegetative species diversity, which promotes soil microbial biodiversity, and improves soil organic matter (Russell & Bisinger, 2015).

New practices eligible for funding assistance within EQIP and CSP include soil tests, and for EQIP, also soil remediation. The two terms, "soil tests" and "soil remediation," are defined under a provision in EQIP. The definitions explain the terms' meanings, outline the measurements and associated actions, and delineate the desired outcomes or intended purpose for those practices. Soil testing allows a producer to understand more deeply what the soil is missing or has in excess and assists the producer in making efforts to restore the soil. Soil remediation includes practices that regenerate and sustain the soil. This provision is especially notable for urban producers that may need to perform more extensive soil testing and remediation due to potential site contamination. With these new eligible practices, producers have more tools and resources available to them to enhance and remediate their soils.

Soil health planning and resource-conserving crop rotation planning are also eligible as practices under EQIP and CSP. The planning process may be a barrier for some producers to implement conservation practices, as it requires a large upfront time commitment for planning and the resulting practices can make production (both labor and management) more complicated. The 2018 Farm Bill assists in lowering this barrier by providing financial assistance and technical assistance for producers to make plans for soil health improving practices and to plan a soil conserving crop rotation. In addition to cover crops and rotations, this planning support includes practices such as conservation tillage, which reduces soil erosion, minimizes sediment transport, maintains or increases soil organic carbon, increases water infiltration and increases soil moisture retention (Busari, Kukal, Kaur, Bhatt, & Dulazi, 2015; United States Department of Agriculture Natural Resources Conservation Service, 2011).

Additionally, conservation practices that assist in climate change adaptation and mitigation are now eligible for funding in both EQIP and CSP. With more extreme weather events predicted to occur in the coming years (Stott, 2016), paired with the extremely wet spring this year causing delayed plantings in the mid-west (United States Department of Agriculture National Agricultural Statistics Service, 2019), conservation practices are important adaptation and mitigation tools. With appropriate implementation of this provision, there could be more incentive to use practices that mitigate against severe drought and flood through enhanced soil water infiltration rates and water holding capacities.

Furthermore, grazing management practices are now specifically referenced as eligible for funding and technical assistance under the livestock allocation of EQIP. As enacted by the 2018 Farm Bill, 50% of EQIP funds are devoted to practices relating to livestock (down 10% from the 2014 Farm Bill). The livestock set-aside has always included eligibility for grazing and pasture-based animal agriculture, though CAFO-related structures and equipment have generally received the biggest share of the funding. Under this new clarification, activities such as access control, fencing, forage planting, watering

facilities, and grazing management plans may see increased funding assistance despite the 10% decrease in the set-aside.

Soil and Land Protection Program Improvements

Several provisions in the 2018 Farm Bill improve the Conservation Reserve Program, including new modifications of the CRP Transition Incentives Program (TIP) and the Conservation Reserve Enhancement Program (CREP) that may greatly benefit soil health. Of particular note is the new Soil Health and Income Protection Program.

The Soil Health and Income Protection Program (SHIPP) is authorized as part of the Conservation Reserve Program and administered by the Farm Service Agency (FSA). Through SHIPP, farmers may enter into short-term contracts of three to five years to place up to 15% of their total eligible land into a CRP contract. The land that is eligible must be the least productive land on the farm. Landowners may receive up to 50% of the normal CRP rate, but there is no financial assistance for seed. The hope of this program is that the most degraded soils on a farm are temporarily taken out of production to conserve and regenerate the soil. The rental payment is only 50% of a normal CRP payment, with the expectation that this is still more economically viable and reliable than farming the marginally productive land. Thus, producers that enroll part of their land in SHIPP provide time and efforts to restore the soil, receive some financial assistance, and continue to produce on their more productive land.

Another potential measure to help protect soil is the new Grassland Conservation Initiative that now functions within the Conservation Stewardship Program. This initiative allows for a specific one-time only enrollment option for a five-year contract under CSP to protect and conserve grazing land uses while addressing one priority resource concern. This program replaces commodity payments on grasslands from Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) from 2019 until 2023. Producers previously received ARC or PLC payments under Title I for base acres that had been planted 100% in grass (or cropland left fallow or idle). Now, landowners with crop base that has been in 100% grass for 10 or more years are ineligible for commodity payments.[1]

All producers that apply for the CSP Grassland Conservation Initiative will be accepted, without ranking, and will receive $18 per acre each year. The changeover from commodity payments to conservation payments for these grasslands may promote more land stewardship, as presumably some conservation action will be required upon enrollment. Producers enrolled in CSP under this initiative will have to address a priority resource concern and therefore will need to implement conservation practices accordingly. Covered practices may include enhancements to plant and wildlife diversity, grazing management strategies, and planting of native herbaceous and woody species. These practices can help reduce soil erosion, retain soil moisture, and increase soil health.

[1] Within this new initiative, there are no changes to base acres. As a result, producers may be re-eligible for ARC or PLC after 2023, should Congress decide then to make those acres eligible once again (see section 1102(b) in the Agricultural Improvement Act of 2018).

Greater Access to Soil Health Support for Beginning, Socially Disadvantaged and Veteran Producers

Through the 2018 Farm Bill, Congress identified the importance of supporting future farmers by including provisions to further assist and lower barriers to entry for socially disadvantaged, beginning, and veteran farmers and ranchers. These advancements help make land more accessible to limited resource producers and will hopefully increase adoption rates of soil health promoting conservation practices on their land. Some of the more notable of these provisions include improvements in advanced payments under EQIP, higher payment rates and cost share under SHIPP, and enhancements to CRP TIP.

EQIP advanced payments to beginning, socially disadvantaged, and veteran farmers and ranchers are improved. The 2018 Farm Bill instructs USDA to ensure that States automatically announce and offer the option of advanced payments for approved practices under EQIP to limited resource, socially disadvantaged, beginning and veteran farmers and ranchers. If advanced payments are elected by an eligible producer, then at least 50% of the agreed upon funding may be provided for all costs related to practice implementation. In the previous rule, advanced payments were capped at 50%. Thus, this 2018 Farm Bill provision eases the execution of conservation practices for eligible producers.

Beginning and socially disadvantaged farmers participating in SHIPP will receive more financial assistance than other enrolled producers. Limited resource producers enrolled in SHIPP are authorized to receive 75% of the CRP rental rate instead of 50%. In addition, eligible producers may receive a 50% cost share payment for seeds, whereas other producers receive no cost share assistance. This provision enables limited resource producers to work the land that is most profitable and repair up to 15% of the land that is least profitable with considerable financial aid. This provision potentially helps lower the barrier to entry even further while working to conserve and repair soil on cultivated land.

Beginning, socially disadvantaged, and veteran farmers and ranchers also receive assistance in obtaining land through CRP TIP. This program supports the limited resource farmer and rancher, but also benefits the seller or leaser. This program existed prior to the 2018 Farm Bill, but it is enhanced through section 2208(a) of the Agricultural Improvement Act of 2018. The program assists CRP landowners or operators in selling or leasing their expiring CRP land to a beginning, socially disadvantaged, or veteran producer. Through CRP TIP, the CRP contract holder receives an additional two years of CRP payments after the expired contract if the landowner sells or leases to an eligible producer that is not a family member. The eligible producer must implement sustainable agricultural practices on the land.

The changes in CRP TIP enacted in the 2018 Farm Bill broaden eligibility for the program to all landowners with expiring CRP contracts; previously only retired or retiring producers were eligible. The enhancements to CRP TIP also allow the beginning, socially disadvantaged, or veteran producer to begin conservation practices, land improvements, and organic certification on contracted land within two years of the contract termination date, an increase from the previously allowed one year. In addition, the contracted land is given priority for enrollment in EQIP, CSP, or Agricultural Conservation Easement Program (ACEP). Language added in the 2018

Farm Bill also increases flexibility in length of sale or lease to accommodate long-term leases and leases with the option to purchase. Also, CRP TIP funding is increased from $33 million to $50 million over the course of the five-year farm bill (see **Table 2. Funding Comparison of 2014 and 2018 Farm Bill Programs Relating to Soil Health**). All these improvements make land more accessible to beginning, socially disadvantaged, or veteran farmers and ranchers, and allows for increased land stewardship, leading to improved soil health on working lands.

Mandates for Data Collection and Soil Health Outcomes

Farm bills generally instruct USDA to perform a variety of studies and subsequently report the results to Congress, and the 2018 Farm Bill is no exception. Described here are two provisions on data generation and collection that may impact soil health.

First, USDA is directed to compile, maintain and make publicly available a database of conservation practices and their impacts. Then, USDA is obligated to follow up with recommendations for new effective practices, with an emphasis placed on reporting their effect on soil health, nutrient management, and source water protection. Also, USDA must report back to Congress every two years on the results of Conservation Innovation Grant projects, including where feasible, an account of economic outcomes. This includes results of the on-farm soil health demonstration trials mentioned above. This data collection and reporting on conservation practices, soil health outcomes, and economic outcomes will make it easier for producers to make the decision to include soil health promoting practices on their farms and ranches.

Similarly, within one year of Farm Bill passage, USDA is directed to issue a report identifying all available USDA data sets regarding the use of conservation practices and their impact on farm and ranch profitability, including impacts on crop yield and soil health. Additionally, USDA is required to highlight how they will make these data sets accessible to University researchers and to make recommendations for changes to federal law to improve access to the data sets in order to maximize research benefits. This data will be very valuable to help coordinate and compile research efforts exploring effects of soil health practices on yield and economic return. Also, the data may inform USDA's Risk Management Agency (RMA) to proactively assist producers in adopting soil health practices without jeopardizing crop insurance eligibility.

Crop Insurance Promotes and Protects Soil Health

Two key provisions in the Crop Insurance title of the 2018 Farm Bill may have a large impact on protecting and enhancing farmland soils. One provision promotes cover cropping without disrupting crop insurance eligibility. The other closes a loophole in the "sodsaver" policy that allowed for disturbance of native grasslands while still qualifying that land for full crop insurance benefits in six north central states.

A provision under Title XI designates cover cropping as a good farming practice and defines cover crop termination. For several years prior to this 2018 provision, cover cropping was allowed without affecting cash crop insurability if the cover crop was terminated according to the guidelines published by RMA, NRCS and FSA. Also allowed was cover cropping in place of summer fallow land where summer

fallow was an insurable practice. While the guidelines helped, to some extent, in removing the perception that using cover crops could jeopardize insurance coverage, they did not put those fears to rest and not everyone interpreted those guidelines with sufficient flexibility.

New language in the 2018 Farm Bill highlights cover cropping as a desirable practice and hopefully ensures crop insurance payments will not be threatened by implementing cover crops. The provision should reduce this barrier to cover crop adoption among producers and help to increase vegetative soil cover across U.S. farmland. The RMA has already published new cover crop rules, as directed by the 2018 Farm Bill, for the 2020 crop year. Please see **Table 1** for more information.

Another crop insurance provision in the new bill further disincentivizes crop production on native sod across the Prairie Pothole Region of the U.S. Previous "sodsaver" legislation helped constrain the conversion of native grassland to cropland by limiting crop insurance benefits for crops grown on native sod. However, a loophole allowed annual cash crop production to be eligible for crop insurance if a producer converted to a non-annual crop for four consecutive years on native sod prior to annual production. The provision in the 2018 Farm Bill closes this loophole by subjecting annual crops to a reduction in crop insurance benefits for no more than four cumulative years within the first 10 years from initial tillage of native sod. The goal of this provision is to reduce undesirable crop insurance payments and to protect lands in native sod across the prairie region.

Research Grants Extend to Include Soil Health

The 2018 Farm Bill provides for several research grant opportunities for exploring soil health. Research is imperative to identify the most successful and impactful conservation practices that can restore, repair, and protect soil health. Research is also necessary to increase producer adoption of these soil health conservation practices.

Soil health was specifically added as a research purpose and priority area in both the Organic Agriculture Research and Extension Initiative (OREI) and the Agriculture and Food Research Initiative (AFRI). Under OREI, funding may also be awarded for education and extension efforts relating to soil health. In addition, mandatory funding for OREI is increased gradually from $20 million in 2019 to $50 million in 2023 and that funding is now made permanent within the Farm Bill (see **Table 2**). Unlike OREI, funding for AFRI is determined through the annual appropriations process. USDA's National Institute for Food and Agriculture (NIFA) determines the percentage of total AFRI funding allocated to numerous subprograms, so it is not yet known how much will be put toward soil health research going forward. However, with increased funding and soil health as a research purpose under these two research programs, soil health research will hopefully increase and subsequently assist in educating producers on the benefits of maintaining and improving soil health.

Within the Biomass Research and Development Initiative (BRDI), an amendment in the 2018 Farm Bill makes carbon dioxide intended for permanent sequestration or utilization as a high value, bio-based product, eligible for promotion. This provision also appoints an advisory committee member with expertise in carbon capture, utilization and sequestration to the intragovernmental Biomass Research and Development Technical Advisory Committee.

Should BRDI receive appropriations, R&D to improve soil health and sequester carbon may get a boost through this new 2018 provision.

The 2018 Farm Bill and Funding Changes

Overall, the 2018 Farm Bill maintains the funding level for the Conservation title as a whole, constant with the previous Farm Bill. Increased funding is provided for ACEP, EQIP, Regional Conservation Partnership Program (RCPP), and several smaller programs; while CSP funding is reduced beginning after 2023, thereby decreasing funds for working lands programs by $5 billion over the decade 2023-2033.

For CSP, the 2018 Farm Bill also changes the program from an acreage cap to a funding (dollar) cap. This change may help USDA more functionally administer and support the CSP program, but the program may not reach as many acres or producers as before, depending on what USDA decides to do with the size of payments per acre. Data on participation, acreage, practice implementation, and program payments will be necessary to assess the impact of this provision on resource conservation and soil health.

A structural funding change was also made to RCPP. Rather than pulling the bulk of RCPP funds from other conservation programs, it is now funded as its own stand-alone program. Previously, RCPP pulled off up to 7% of CSP, EQIP, and ACEP funds and operated under the rules for those underlying programs. Now, going forward, RCPP will be funded as a stand-alone program, with annual funding set at $300 million. This may make RCPP easier to administer, but the total funding available for RCPP through this provision is lower than the 2014 Farm Bill. In addition, the program will now also require rulemaking to establish it as its own program with its own set of rules.

Annual rental payments are reduced for CRP. General CRP signup is capped at 85% of the estimated county rental rate, and continuous CRP signup is capped at 90% of the estimated county rental rate. It is not clear how this provision may affect soil health. Relative to a system in which farmers and landowners can offer competitive bids, the new approach may result in less environmental benefit per dollar spent.

For more information on funding changes in the 2018 Farm Bill for programs that may affect soil health, please see **Table 2**.

Farm Bill Implementation

The programs and provisions set forth by the 2018 Farm Bill need to be implemented by the appropriate USDA agencies, which may require rulemaking. After rulemaking, agency staff need to be trained and then producers need to be effectively educated on the options available to them. During this process there are opportunities for farm organizations and the public to make recommendations as how to best implement provisions enacted by the Agriculture Improvement Act of 2018.

At the fourth annual Soil Health Institute meeting in July 2019, a group of professionals gathered to address some of the challenges, necessities and suggestions surrounding implementation of the 2018 Farm Bill. A key take-away from that meeting was the need for more technical assistance, training and education for producers. This is especially true when it comes to providing demonstration and guidance on how to execute and manage specific practices rather than relying solely on neighbors or printed guidelines. For example, if producers are to successfully employ cover crops, diversified crop rotations, and

low or no-till, many producers would benefit from continuous engagement with field conservationists.

One challenge that the agencies may face in 2018 Farm Bill implementation is effective producer outreach. Many of these provisions and programs can aid producers in executing soil health improving practices, or allow producers more access to land, but if producers do not know about the program, then the new program or provision benefits will not be realized. Outreach should therefore be a primary focus of the responsible agencies throughout the implementation process and beyond.

Another message that arose during the SHI discussion was the suggestion of comprehensive systems management of programs to attain the co-benefit opportunities offered by many conservation practices when implemented with a systems perspective. This includes the co-benefits of pollinator habitat protection and rehabilitation, and water quality practices on soil health. More specifically, a provision in the 2018 Farm Bill allowing States to select up to 10 high priority practices within EQIP that are eligible to receive up to 90% of practice costs, may be managed in a way that systematically addresses a natural resource concern while providing co-benefits to other resources.

Conclusion

Many provisions in the Agriculture Improvement Act of 2018 provide the opportunity for improvements in soil health across the nation's farmland and rangeland. Some programs, such as CSP, are directed to be managed explicitly to improve soil health. Conservation program amendments promote and incentivize soil-conserving practices such as cover crops, resource conserving crop rotation, soil testing and soil remediation. Research funds can now be granted to evaluate practices and their impact on soil health, including CIG on-farm soil health demonstration trials. Some of these provisions are already being implemented by the USDA agencies, including new crop insurance guidance on cover crops published June 30th, 2019, but many still need to go through rulemaking and subsequent implementation. There is without a doubt a continued need for stronger language and funding to promote soil health in future farm and climate legislation. Nonetheless, the 2018 Farm Bill makes significant advances for safeguarding and enhancing the vitality and productivity of our nation's soils.

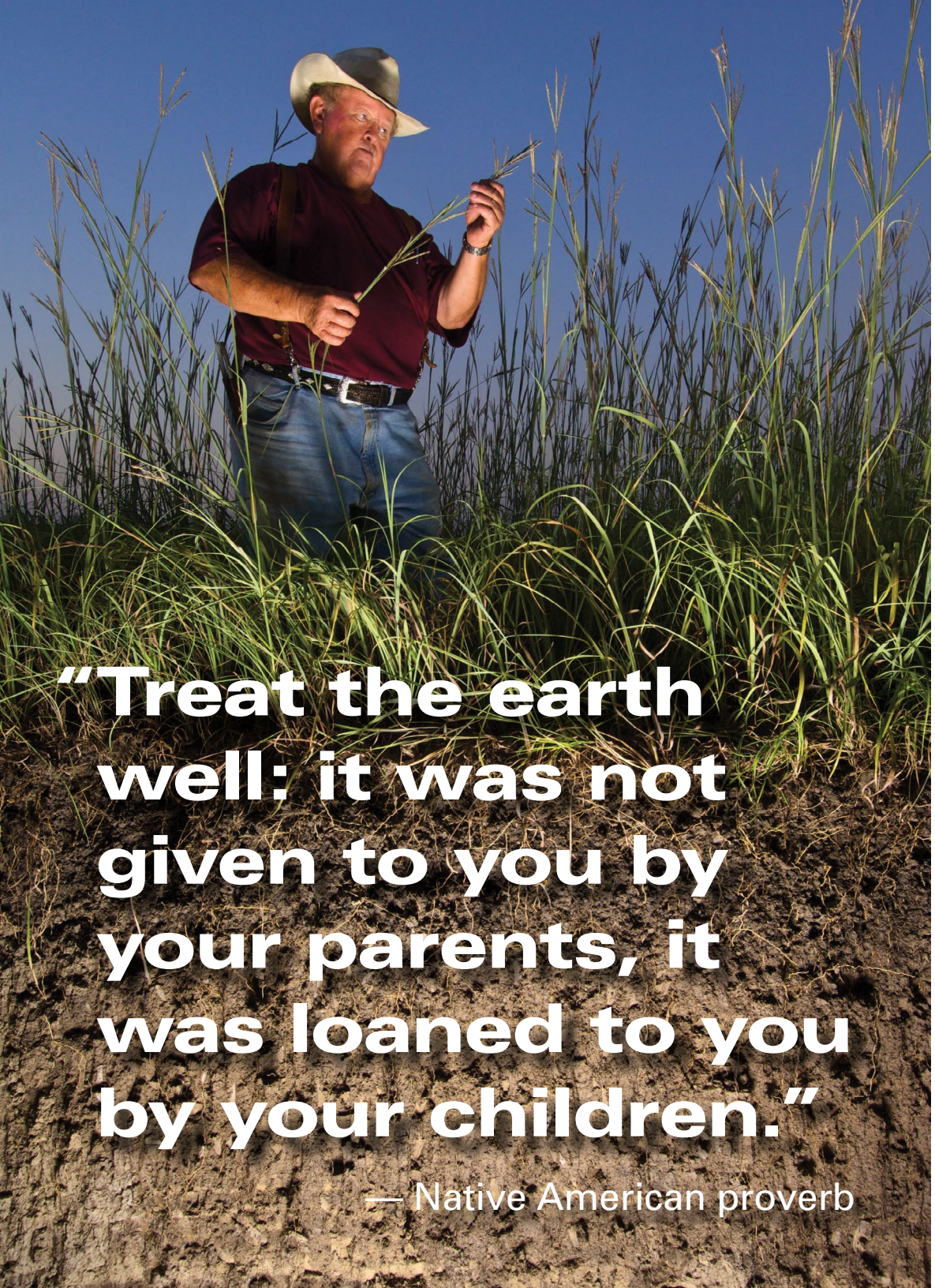

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Table 1. Summary of 2018 Farm Bill Provisions that Impact Soil Health

Farm Bill Title & Section	Program	Provision in 2018 Farm Bill	What it does	Soil health impacts	Links to USDA Agency information	Provision Category[1]	Impact on soil health (1-5)[2]	Link to United States Code
II Conservation 2201(c)(2)	Conservation Reserve Program (CRP)	CRP Grasslands Initiative	Creates a minimum CRP grassland enrollment of 2 million acres and prioritizes expiring CRP land, land at risk of development, and land with ecological significance.	Protects vulnerable grazing land to ensure grassland cover and improved conservation benefits.	https://www.fsa.usda.gov/programs-and-services/conservation-programs/crp-grasslands/index	Land Protection	3	16 USC 3831(d)(2)
II Conservation 2201(c)(3)	Conservation Reserve Program (CRP) - CLEAR	CRP Clean Lakes, Estuaries, and Rivers (CLEAR) Initiative	Reserves a minimum 40% of Continuous CRP acreage for partial field water quality practices such as a grass sod waterway, riparian buffer, filter strip, prairie strip, saturated buffers, etc.	Dedicates land to improve water quality. Many of the practices/installations for water quality improvement help improve soil health by increasing ground cover, removing tillage, increasing plant and microbial diversity.	No agency information available yet - FSA 2018FB overview: https://www.farmers.gov/sites/default/files/documents/FSA-FarmBill2018_WhatsChangedExpanded-19.pdf	Land Protection	3	16 USC 3831(d)(3)
II Conservation 2201(c)(3)	Conservation Reserve Program (CRP)	Continuous CRP	Allows continuous enrollment of conservation buffers and other partial field practices. Offers are not subjected to competitive bidding. Minimum enrollment of 8.6 million acres (out of the 27 million acres under 2201(c)(2)) in continuous CRP contracts by 2023.	Farmers can enroll land in CRP continuously rather than waiting for a one-time annual general sign up. Most Continuous CRP practices and initiatives focus on soil erosion, water quality, and wildlife habitat, but many such practices will also benefit soil health to an extent.	https://www.fsa.usda.gov/programs-and-services/conservation-programs/prospective-participants/index	Land Protection	3	16 USC 3831(d)(6)
II Conservation 2202	Conservation Reserve Program (CRP) - CREP	CRP Conservation Reserve Enhancement Program (CREP)	Authorizes CREP, allowing funding and implementation partnership between state government/nongovernment and the federal government to address high priority conservation concerns. It is part of CRP and enrollment is continuous.	Opens up an opportunity for environmentally sensitive acreage to be covered through a partnership with matched funding. States can highlight soil health conservation as a high priority concern through eligible conservation practices to reduce soil erosion.	https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-enhancement/index	Land Protection	3	16 USC 3831a
II Conservation 2204	Conservation Reserve Program (CRP) - CLEAR30	CLEAR 30 Pilot Project in CRP	Allows expiring land under CRP to be enrolled in a 30 year contract through CLEAR 30 instead of re-enrolling in CRP or not enrolling at all. Only expiring land under CRP contract is eligible.	30 years of the land under contract for the same items listed under the shorter term CRP CLEAR initiative. Allows continued coverage and minimal disturbance of the soil, with additional conservation practices to improve water quality.	No agency information available yet - FSA 2018FB overview: https://www.farmers.gov/sites/default/files/documents/FSA-FarmBill2018_WhatsChangedExpanded-19.pdf	Land Protection	3	16 USC 3831c(a)
II Conservation 2204	Conservation Reserve Program (CRP) -SHIPP	Soil Health and Income Protection Program (SHIPP)	Short term contract (3-5 years). Up to 15% of total eligible land on a given farm, the least productive land, is removed and placed into a CRP contract. Landowners receives 50% of the normal CRP rate, no cost sharing. Beginning, socially disadvantaged, veteran, or limited resource farmers get 75% CRP rental rate and 50% cost share.	Short immediate fix to cover the soil with semi-permanent vegetation. Takes land that is otherwise less productive and most likely in poor soil health and pays the farmer a soil rental rate to increase plant cover, reduce tillage and let the soil recover for at least 3 years.	No agency information available yet - FSA 2018FB overview: https://www.farmers.gov/sites/default/files/documents/FSA-FarmBill2018_WhatsChangedExpanded-19.pdf	Land Protection Access	5	16 USC 3831c(b)

Farm Bill Title & Section	Program	Provision in 2018 Farm Bill	What it does	Soil health impacts	Links to USDA Agency information	Provision Category[1]	Impact on soil health (1-5)[2]	Link to United States Code
II Conservation 2206(b)(1)	Conservation Reserve Program (CRP)	No reduction in rental rate in emergency haying, grazing, or other emergency response given certain conditions.	Outlines acceptable conditions for haying, grazing, and other uses of forage on CRP land during emergencies of drought, flooding, and wildfire without a reduction in the rental rate.	Sustainable grazing can improve soil health, increase soil organic carbon, and increase resilience of the soil to natural disasters. Prevents damage to soil during risk of a natural emergency.	https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/emergency-haying-and-grazing/index	Structure Land Protection	3	16 USC 3833(b)(1)(B)
II Conservation 2207(c)	Conservation Reserve Program (CRP)	Reduces annual rental payments	Annual rental payments are reduced to some percentage less than the surveyed and USDA determined county cropland and pastureland rental rates. Payments are limited to 85% of the estimated rental rate for general enrollment, and continuous enrollment is capped at 90% of the rental rate. Adds an incentive to sign up for continuous CRP through a one-time enrollment payout equal to 32.5% of the first annual rental payment.	The intention of the change is to reduce cost, reduce impact on land market, and enroll the most sensitive acres vulnerable to soil erosion. May also reduce interest in the program. The goal of the additional incentives to sign up for continuous CRP is to enroll more land to implement water quality conservation practices.	No agency information available yet - FSA 2018FB overview: https://www.farmers.gov/sites/default/files/documents/FSA-FarmBill2018_WhatsChangedExpanded-19.pdf	Structure Land Protection	2	16 USC 3834(d)
II Conservation 2208(a)	Conservation Reserve Program (CRP) -TIP	Enhancements to CRP Transition Incentives Program (TIP)	Opens the program to any expiring contract holder whereas previously it was only open to retired or retiring farmers or ranchers. Increases the time allowed for the beginning, socially disadvantaged or veteran farmer or rancher to begin conservation and land improvements or to begin organic certification on the contracted land from 1 year before the date of termination of the contract to 2 years prior. Adds language that allows flexibility in the length of the sale or lease to accommodate long-term leases and leases with the option to purchase. Adds that the contracted land is priority for enrollment in EQIP, CSP or ACEP. Increases the annual funding for this program from $33 million to $50 million.	Provides incentives for expiring land to go back into production under sustainable practices, which would help conserve the soil and promote soil health while producing food, fuel, or fiber. Assists beginning, socially disadvantaged, and veteran farmers or ranchers acquire land.	Page not yet updated post-2018 Farm Bill: https://www.fsa.usda.gov/programs-and-services/conservation-programs/transition-incentives/index	Access Funding	4	16 USC 3835(f)
II Conservation 2208(b)	Conservation Reserve Program (CRP)	CRP end of contract considerations	Landowners of expiring CRP land can enroll and start implementation of practices in EQIP or CSP within 1 year of end of contract. May also begin Organic certification within 3 years of expiring contract.	Makes it easier to transition from CRP to sustainable farming practices with overlapping financial support. Reduces soil erosion during production. Helps conserve the soil ecosystem generated under CRP.	Page not yet updated post-2018 Farm Bill: https://www.fsa.usda.gov/Internet/FSA_File/crp_takeout.pdf	Structure Incentives	4	16 USC 3835(g)

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II Conservation 2302	Environmental Quality Incentive Program	Climate adaptation added as EQIP purpose	EQIP may be used to help producers implement practices or make changes to their production systems for "adapting to, and mitigating against, increasing weather volatility, drought resiliency measures, or other practices" on working lands.	Implementing changes in production that protect against extreme changes in climate include many that help conserve the soil and improve soil health. No till and cover cropping help to increase aggregate stability which both helps with water holding capacity and decreases soil erosion.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/	Incentives Structure	4	16 USC 3839aa
II Conservation 2303	Environmental Quality Incentive Program	Soil health planning and resource conserving crop rotation planning in EQIP	EQIP assistance for planning conservation activities now covers soil health planning. Specifically includes planning of comprehensive nutrient management, resource-conserving crop rotations plans, soil health planning, etc.	More incentive for producers to implement soil health improving practices when the planning, which may be a barrier to entry, is also covered under EQIP funding and technical assistance.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/cp/	Incentives Structure	5	16 USC 3839aa-1(6)
II Conservation 2303	Environmental Quality Incentive Program	Soil tests and remediation eligible practices under EQIP	Outlines the addition of soil testing and soil remediation as practices approved under EQIP.	Soil testing and remediation, as carried out by the producer, are eligible for funding assistance. Potential for increased soil testing and remediation may lead to use of other soil health promoting practices. This provision will significantly help urban farmers remediate contaminated soil.	No agency information available yet	Incentives Structure	4	16 USC 3839aa-1(6)
II Conservation 2303	Environmental Quality Incentive Program	Definition of soil remediation and soil tests for evaluation of soil health in EQIP	Explains what the terms soil testing and soil remediation mean for producers plus the associated measurements and actions.	Soil remediation includes practices that regenerate and sustain the soil. Soil testing allows for the producer to understand how degraded their soil may be and how they can improve it.	No agency information available yet	Structure	2	16 USC 3839aa-1(9) and 16 USC 3839aa-1(10)
II Conservation 2304(b)(1)	Environmental Quality Incentive Program	Improvement in EQIP advance payments	States must automatically offer the option of advanced payments to limited resource, socially disadvantaged, beginning, or veteran farmers and ranchers. States must also ensure producers know advanced payments are an option. If elected by a producer, at least 50% of the agreed upon funding may be provided in advanced for all costs related to purchases or contracting (previously capped at 50%). Makes it easier for producers to implement conservation practices and helps incentivize their involvement in conservation practices.	Eases the front loaded work and costs associated with implementing practices related to soil health improvements for socially disadvantaged, beginning and veteran farmers and ranchers.	No agency information available yet	Access	2	16 USC 3839aa-2(d)(4)
II Conservation 2304(b)(2)	Environmental Quality Incentive Program	States can select 10 high priority practices that are eligible up to 90% practice cost	The 10 high priority practices selected in a state may receive up to 90% of the costs associated with the implementation and management of said practices.	States can choose to focus on soil health improving practices and provide more incentive for farmers to participate with 90% cost coverage for implementation.	https://www.nrcs.usda.gov/wps/portal/nrcs/sitenav/ca/states/	Incentives Structure	4	16 USC 3839aa-2(d)(7)

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II Conservation 2304(c)	Environmental Quality Incentive Program	Includes grazing management practices within EQIP livestock allocation	Grazing management practices can be funded under the EQIP livestock allocation. 50% of EQIP funding is allocated to practices related to livestock production, down 10% from 2014 Farm Bill.	Grazing management helps maintain plant cover and minimize wildfires on range and pastureland. Grazing can also help to increase plant and wildlife diversity, which decreases soil erosion, increases soil microbial communities and increases soil health.	https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1356228.pdf	Incentives Structure	3	16 USC 3839aa-2(f)
II Conservation 2304(f)	Environmental Quality Incentive Program	Increases payment cap for EQIP organic Initiative	Increases the payment cap for conservation practices through EQIP under the organic initiative from $20,000 per year or $80,000 during any 6 year period to $140,000 total from 2019 through 2023.	Increased opportunity for organic producers to implement and receive funding for soil health promoting practices.	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/eqip/?&cid=nrcs143_008224	Funding	3	16 USC 3839aa-2(i)(3)
II Conservation 2304(g)	Environmental Quality Incentive Program	Establishes a new Conservation Incentive Contract under EQIP	Creates a new incentive option under EQIP. Three eligible priority resource concerns will be selected by the federal government/states within given watersheds or regions for each of the relevant land uses within those areas. In entering the contract producers must agree to address at least 1 eligible priority resource concern through implementation and management of an incentive practice throughout the entirety of the contract. Contracts have terms between 5-10 years. This will not be offered until FY2020.	It is possible that soil health may be one of the three eligible priority resource concerns addressed by these new Conservation Incentive Contracts in EQIP.	No agency information available yet	Structure Incentives	3	16 USC 3839aa-2(j)
II Conservation 2307(c)	Conservation Innovation Grants under EQIP	Soil health demonstration trial under Conservation Innovation Grants (CIG) on-farm innovation	Using a portion of CIG funds, provides incentives to producers to implement practices that improve soil health and increase soil carbon. Funds will also help to establish measurement protocols in assessing changes in soil health and soil carbon after implementation of soil health conservation practices. USDA mandated to initiate a study on changes in soil health due to conservation practices, and then report on the results annually to Congress.	Direct mandated funding for implementing, monitoring, and studying practices that increase soil health and soil carbon.	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/cig/?cid=nrcseprd1459039	Structure Data & Incentives	5	16 USC 3839aa-8(c)(7)
II Conservation 2307(b)	Conservation Innovation Grants under EQIP	Air Quality Concerns from Agricultural Operations within Conservation Innovation Grants (CIG)	Increases funding from $25 million to $37.5 million annually through 2023 to grant to producers using cost effective and innovative technologies to address a State's air quality concerns.	Could use soil health promoting technologies to address air quality concerns, such as greenhouse gas mitigation and carbon sequestration.	https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/air/quality/?cid=stelprdb1076866	Funding	3	16 USC 3839aa-8(b)

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II Conservation 2307(d)	Conservation Innovation Grants under EQIP	Conservation reporting and practice database, includes soil health within CIG	USDA must compile, maintain, and make publicly available a database of conservation practices, their impacts, and a list of recommended new and effective practices. USDA must also report back to Congress every 2 years on the results of CIGs with economic outcomes. There is emphasis and specific mention of the soil health demonstration trial and soil health practices.	Holds the government accountable for making and maintaining information available to the public for ease of assessing and implementing conservation efforts. There is a focus on soil health promoting practices. This will potentially make incorporation of soil health conservation practices for producers an easier choice.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/cig/	Data	4	16 USC 3839aa-8(d)
II Conservation 2308(a)	Conservation Stewardship Program (CSP)	Adds eligible activities to CSP including soil health planning and climate adaptation activities	Explicitly mentions the eligibility of soil health planning as a conservation activity under CSP. Also includes eligible activities that may assist in mitigating impacts of severe climate events.	Financial assistance available under CSP for soil health planning may increase implementation of conservation practices that promote soil health. Also, covers the planning of activities to help mitigate extreme climate events which also increase soil health.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Incentives Structure	5	16 USC 3839aa-21(2)
II Conservation 2308(a)(2)	Conservation Stewardship Program (CSP)	Strengthens definition of stewardship threshold in CSP	Raises the bar for setting the stewardship threshold in CSP and is more explicit about how it will be determined and set by USDA.	Producers may have an increased understanding of the stewardship threshold they need to meet in order to participate in CSP, as well as the necessary actions to get to that threshold. May encourage more enrollment in CSP and increase efforts towards soil health.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Structure	3	16 USC 3839aa-21(7)
II Conservation 2308(c)(1)	Conservation Stewardship Program (CSP)	Modifies and strengthens CSP ranking criteria	Simplifies the ranking of CSP applications to focus on two criteria only - active management of conservation treatment at the time of enrollment, and additional treatment during the contract period.	Applications with higher expected results and outcomes for conservation will get priority for funding. More likely that there will be positive impacts on soil health.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Structure	3	16 USC 3839aa-23(b)(1)
II Conservation 2308(c)(4)	Conservation Stewardship Program (CSP)	Modifies and strengthens CSP contract renewal	Allows a producer to elect to renew for another 5 year CSP contract within the first half of the fifth year of the existing contract. Makes the contract renewal agreement criteria easier to understand. No limit on number of contract renewal periods; previously only allowed one 5 year contract renewal. No longer eligible for automatic renewal, but the conservation benefits achieved during the initial contract create a baseline for the renewal. Supports and incentivizes more advanced conservation practices.	More advanced conservation will likely implement soil health promoting practices or may indirectly improve soil health.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Structure	3	16 USC 3839aa-23(e)

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II Conservation 2308(d)	Conservation Stewardship Program (CSP)	Removes acreage enrollment limitation and replaces with funding limitation	Amends the previous acreage enrollment limitation which allowed USDA to enroll 10 million additional CSP acres every year with a goal of a national average payment rate of $18/acre. The 2018 Farm Bill removes that language and inserts a program funding limit instead (see funding comparison in Table 2).	Intention is to help USDA more functionally administer and support the CSP program, but may not reach as many acres and producers as before. Unsure of impact on soil health.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Funding Structure	2	16 USC 3839aa-24
II Conservation 2308(d)(4)	Conservation Stewardship Program (CSP)	CSP payments for cover crop activities to be at least 125% of payment rate	Producers are paid at a minimum 125% of the determined annual payment amount for all activities pertaining to cover crops.	Financial incentive to use cover crops; direct impact on soil health improvement.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Incentives	5	16 USC 3839aa-24(c)(5)
II Conservation 2308(d)(5)	Conservation Stewardship Program (CSP)	CSP payments for resource-conserving crop rotations to be at least 150% of payment rate	Producers are paid at a minimum 150% of the determined annual payment amount for implementing a resource-conserving crop rotation.	Financial incentive to implement a crop rotation that benefits soil health by reducing erosion, building soil organic matter, etc.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Incentives	5	16 USC 3839aa-24(d)(4)
II Conservation 2308(d)(5)	Conservation Stewardship Program (CSP)	CSP payments for advanced grazing management to be at least 150% of payment rate	Producers are paid at a minimum 150% of the determined annual payment amount for implementing advanced grazing management.	Financial incentive to implement advanced grazing management. Focuses on soil health improvements through managed grazing to promote "improved soil health and carbon sequestration", "drought resilience"; "wildlife habitat"; and "water quality improvement".	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Incentives	5	16 USC 3839aa-24(d)(4)
II Conservation 2308(d)(6)	Conservation Stewardship Program (CSP)	CSP payments authorized for comprehensive conservation plan	Producers are granted a one time payment for the development of a comprehensive conservation plan based on the number of priority concerns addressed and number of types of land uses. Financial incentive for creating a comprehensive conservation plan. Pays farmers back for their time developing the plan before implementation.	Has potential to increase the number of producers implementing soil health improving practices.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Incentives Structure	3	16 USC 3839aa-24(e)
II Conservation 2308(d)(8)	Conservation Stewardship Program (CSP)	Establishes organic allocation within CSP	Better outlines and supports the ability of producers under CSP contract to transition to organic through direct funding allocations set aside for organic initiatives by the State. No restriction on transitioning to organic under CSP and some financial incentive for producers to transition to organic.	Increased opportunity for organic producers to implement and receive funding for soil health promoting practices.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/organic/	Structure Funding	3	16 USC 3839aa-24(h)

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II Conservation 2308(d)(9)	Conservation Stewardship Program (CSP)	Streamlines and coordinates transition between EQIP and CSP	Outlines the government's responsibility in streamlining and coordinating easier transition from EQIP to CSP	Supports and helps facilitate transition from EQIP to CSP which may increase comprehensive conservation activities on farms and ranches which would also help promote soil health.	Page not yet updated post-2018 Farm Bill: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Structure	2	16 USC 3839aa-24(j)
II Conservation 2308(d)(9)	Conservation Stewardship Program (CSP)	Requires management of CSP to enhance soil health	Mandates that the government manage CSP, to enhance soil health, to the greatest extent possible.	Provision emphasizes the improvement of soil health through CSP. Unsure how this will be implemented exactly, but USDA may provide more enhancements and higher financial incentives for conserving soil and advancing soil health.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/csp/	Structure	5	16 USC 3839aa-24(k)
II Conservation 2309	Conservation Stewardship Program (CSP)	Grassland conservation initiative within CSP	Specific one time opportunity for 5 year contract to protect grazing land uses and conserve the land through addressing one priority resource concern. A financial substitute for farms that had been enrolled in commodity payments under Title I for base acres that had been 100% grass for the past 10 years (commodity payments for these acres were suspended by sec 1102(b) from Title I in the 2018 Farm Bill; no price loss coverage and no agricultural risk coverage payments through 2023). Payment rate of $18/acre each year. All eligible producers are accepted and applications will not be ranked.	Unsure of the soil health impact, but provision provides an opportunity for producers to keep land in grass, receive payments and enhance the conservation efforts on the grassland. There is the possibility that this initiative will increase soil health through enhancements to plant and wildlife diversity, increased plant ground cover, and grazing management strategies, which will reduce soil erosion and increase soil health. Covers planting of native herbaceous and woody species which provide shade and plant cover, which may help retain soil moisture.	https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=43711	Land Protection Incentives	2	16 USC 3839aa-25
II Conservation 2404	Private Grazing Land Conservation Assistance	Conservation of private grazing land extended and enhanced	Authorizes appropriations for the conservation of private grazing land through the year 2023. Provides assistance to grazing landowners through a voluntary program that provides technical, educational, and other assistance. Also allows USDA to provide partnerships with land grant schools and nongovernmental organizations for education and outreach opportunities.	May promote sustainable grazing systems that could increase soil carbon and minimize soil erosion.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/cpgl/	Structure	3	16 USC 3839bb

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II Conservation 2501	Other or N/A	Requires review of annual allocation formulas for conservation programs within 1 year of Farm Bill passage with new requirements to consider in updating allocation formulas.	Ensures allocated funds are assessed and reviewed annually and within one year of passage of the Farm Bill to effectively address priority natural resource concerns.	As soil health is now a priority resources concern and a top priority within CSP, the annual reviews should verify that funds are appropriately being allocated to soil health efforts.	No agency information available yet	Structure	2	16 USC 3841(g)
II Conservation 2502(c)	Other or N/A	Review of all conservation practice standards within 1 year of passage of Farm Bill; development of an expedited revision process with continued reporting every 2 years on the process.	Requires USDA to develop a process that expedites the revision of conservation practice standards within 1 year of the Farm Bill enactment. Also requires the USDA to report to Congress on the process every 2 years. Focuses on increasing flexibility in conservation practices that still equally address priority natural resource concerns, including new innovations or technologies in conservation practices.	If and when new research reports on improvements of conservation practices (including ones that increase soil health), they should be more quickly and easily incorporated as approved conservation practices eligible for financial and technical assistance under various conservation programs.	https://www.govinfo.gov/content/pkg/FR-2019-03-11/pdf/2019-04290.pdf	Data Structure	2	16 USC 3842(h)
II Conservation 2503(b)	Other or N/A	Requires review and guidance of the cost effectiveness of cost share rates and practices	Within 1 year of the enactment date, and every year after that, USDA will review the costs of conservation practices and payment rates for those practices. This should encourage participation and implementation of the most effective practices for a natural resource concern. Allows for States to execute the review. Allows States to make annual adjustments to accommodate for the results of the assessment.	Annual assessments may improve the participation rate of producers implementing conservation programs and practices to improve soil health. Allows for fair adjustments in payment rates given a changing climate and economy.	No agency information available yet	Structure Incentives	2	16 USC 3844(j)
II Conservation 2503(d)	Other or N/A	Funding carve-out targeting agricultural production practices that conserve and protect drinking water quality and quantity.	At least 10% of all funds available for conservation programs must be used for conservation practices that address local priorities for protection of source waters for drinking water. Cost share covers up to 90% of the cost associated with the practice.	Most water conserving practices also directly improve soil health. These practices include cover cropping, no till, grassed waterways, nutrient management plans, etc.	https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=43499	Funding Incentives	3	16 USC 3844(n)

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II Conservation 2503(e)	Other or N/A	Producers are allowed to participate in environmental services markets.	Participants in any conservation program are allowed to engage in an environmental service market, and may receive additional funding or compensation if conservation benefits are progressed further and are consistent with the USDA program.	Opportunity for environmental markets to help facilitate soil health conservation practices in addition to what the producer is already doing through a USDA conservation program. More flexibility for a producer to partake in various forms of financial assistance to further conservation efforts.	Page not yet updated post-2018 Farm Bill https://www.usda.gov/oce/environmental_markets/	Structure	2	16 USC 3844(o)
II Conservation 2602	Agricultural Conservation Easement Program (ACEP)	Adds definition of buy-protect-sell in ACEP	Buy-protect-sell in ACEP allows a land trust or other similar entity to purchase and hold the easement, provided they then sell the land at agricultural value within 3 years to a beginning, socially disadvantaged, or veteran farmer or rancher.	Allows for protection of more farmland, which might improve soil health depending on what the new farmer does with the land. Also increases access of land to beginning, socially disadvantaged and veteran farmers and ranchers.	Page not yet updated post-2018 Farm Bill https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/	Structure Access	2	16 USC 3865a
II Conservation 2603(b)(2)	Agricultural Conservation Easement Program (ACEP)	Allows USDA to prioritize ACEP applications that maintain agricultural viability	Allows USDA to prioritize applications that maintain agricultural viability.	More easements that aim to maintain agricultural viability might also protect and enhance soil health.	Page not yet updated post-2018 Farm Bill https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/	Access	2	16 USC 3865b(b)(3)(d)
II Conservation 2703	Regional Conservation Partnership Program (RCPP)	RCPP requirement for partners to quantify project outcomes	Partners are now required to include more details when defining the scope of the project, such as, the conservation benefits the project will receive. The partner must also assess the progress of the project in reaching the conservation benefit and outcome through some quantified measure.	Holds partners and producers more accountable on the progress of conservation activities and goals. Also adds some data analysis on the conservation activity and the benefits. May be used to help soil health research. May also help to efficiently implement soil health improving practices.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/	Data Structure	2	16 USC 3871b
II Conservation 2703	Regional Conservation Partnership Program (RCPP)	Adds option in for longer term partnership agreement in RCPP and allows for a 5 year partnership renewal	Lifts previous 5 year limit agreement if USDA deems the project needs more time to complete the conservation objectives. Also allows for a 5 year renewal and a 1 year extension.	Some soil health improvements can take a long time to assess, so the longer partnership agreements may allow more opportunities for soil health objectives in RCPP.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/	Structure	2	16 USC 3871b
II Conservation 2704(b)(3)	Regional Conservation Partnership Program (RCPP)	RCPP grant program	Allows grant agreements and alternate funding arrangements with eligible partners for up to 15 projects annually within the program. USDA grants funding to eligible partner to carry out technical and financial assistance.	Unsure of the impacts on soil health until rulemaking process complete.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/	Structure Funding	2	16 USC 3871c(d)

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II Conservation 2705	Regional Conservation Partnership Program (RCPP)	RCPP Funding structure no longer reserves any funding from covered conservation programs.	Allows RCPP to operate as a standalone program. Increased total mandatory funding from 100 million to 300 million and removed the 7% annual reserve of covered conservation. Program no longer pulling funds from the covered programs. However, total RCPP funding has not increased.	Unsure of impact on soil health. More leverage for conservation contracts in all the other conservation programs, since funds are no longer pulled into RCPP, and RCPP is funded as a standalone program. However, funding for RCPP has decreased overall from the 2014 Farm Bill.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/	Funding Structure	2	16 USC 3871d
II Conservation 2707	Regional Conservation Partnership Program (RCPP)	Defines critical conservation area and priority resource concern within RCPP. Increases percentage of funding devoted to critical conservation areas within RCPP. Also increases percentage of RCPP funds that are competed for at the state level.	Defines critical conservation (CCA) area as "a geographical area that contains a critical conservation condition that can be addressed through the program." USDA determines 1 or more priority resource concerns within a CCA that, as defined, can be improved though water quality improvement, water quantity improvement, wildlife habitat restoration, and other natural resource improvements. Increases RCPP funding dedicated to CCAs and to states to 50% each, and eliminates the national competition.	Addressing priority resource concerns under CCA agreements in RCPP will help improve soil health. Water and habitat related improvements on agricultural land can be directly addressed through practices that also increase soil health such as cover cropping, no till, diverse native vegetation, etc.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/	Structure Funding	4	16 USC 3871f
VII Research, Extension, and Related Matters 7210	Organic Agriculture Research and Extension Initiative (OREI)	Increases and makes permanent funding for Organic Agriculture Research and Extension Initiative (OREI); adds soil health as a research priority	Mandatory funding increases from 20 million in 2019 to 50 million in 2023. Soil health is added as a purpose to the research efforts, education efforts, and extension activities funded under OREI.	Efforts to research and educate about soil health in organic production may increase now that there is support under OREI.	https://nifa.usda.gov/funding-opportunity/organic-agriculture-research-and-extension-initiative	Research Structure & Funding	5	7 USC 5925b
VII Research, Extension, and Related Matters 7504	Agriculture and Food Research Initiative	Adds soil health as an environmental research area within AFRI	Soil health has been added as a research area to be addressed under the "bioenergy, natural resources, and environment" priority area for competitive grants.	Continues the emphasis of soil health in the 2018 Farm Bill. Grants for efforts related to the research, extension, and education of soil health can now be awarded under AFRI.	https://nifa.usda.gov/program/agriculture-and-food-research-initiative-afri	Research	5	7 USC 3157

Farm Bill Title & Section	Program	Provision in 2018 Farm Bill	What it does	Soil health impacts	Links to USDA Agency information	Provision Category[1]	Impact on soil health (1-5)[2]	Link to United States Code
VII Research, Extension, and Related Matters 7507	Biomass Research and Development	Adds opportunity for carbon sequestration research under biomass research development	Categorizes carbon dioxide intended for permanent sequestration or utilization as a high-value bio based product eligible for research and development promotion through policies and programs. Adds an advisory committee member with expertise in carbon dioxide capture, utilization and sequestration to the Biomass Research and Development Technical Advisory Committee. Makes development of products and methods of permanently sequestering and utilizing carbon as an objective.	Increasing soil health may help sequester carbon, as such, this provision may help fund research around soil health and carbon sequestration.	https://biomassboard.gov/initiative/initiative.html	Research	5	7 USC 8108
VII Research, Extension, and Related Matters 7507(h)	Biomass Research and Development	No authorized mandatory funding for biomass research and development	Does not re-instate mandatory funding for biomass research and development. Only re-authorized $20 million each year in discretionary funding (see funding comparison)	Funding may not be appropropriated despite the authorized emphasis on carbon sequestration and soil health. Research may go un-funded.	n/a	Funding	1	7 USC 8108(h)
VIII Forestry 8407(a)	Healthy Forests Reserve Program	Healthy Forests Reserve Program describes specific practices to be used under restoration plans	Lists specific practices for restoration and enhancement of habitat for endangered or threatened species. These practices include vegetative treatments, practices to increase carbon sequestration, practices to improve biological diversity, etc.	All of these practices to enhance and restore wildlife habitat will also directly and indirectly increase soil health.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/forests/	Structure	4	16 USC 6573
XI Crop Insurance 11101	Federal Crop Insurance - Good Farming Practices	Cover crop termination defined	Defines cover crop termination under crop insurance title as "a practice that historically and under reasonable circumstances results in the termination of the growth of a cover crop."	Helps to clarify what is meant by cover crop termination. Reduces a barrier to practice adoption. Previous language discouraged cover crop use and producers were afraid that they would be ineligible for crop insurance.	https://www.rma.usda.gov/Topics/Cover-Crops	Crop Insurance	3	7 USC 1502(b)(6)
XI Crop Insurance 11107	Federal Crop Insurance - Good Farming Practices	Cover crops as good farming practices	Describes cover crops as a good farming practice if it is terminated properly. Allows the practice of cover cropping without affecting a cash crops insurability. Also allows cover cropping in place of summer fallow, where summer fallow is an insurable practice, without jeopardizing the insurability of the summer fallow.	Reduces a barrier to practice adoption. Previous language discouraged cover crop use and producers were afraid that they would be ineligible for crop insurance. Hopefully increases the number of producers executing cover crops.	https://www.rma.usda.gov/Topics/Cover-Crops	Crop Insurance	5	7 USC 1508(a)(11)
XI Crop Insurance 11114	Federal Crop Insurance - "Sodsaver"	"Sodsaver" loophole closed	In the Prairie Pothole region, crop insurance benefits are reduced for 4 cumulative years within the first 10 years from the initial tillage of land that was native sod, if there is an insurable crop being produced on that land.	Penalty for removing native sod and disrupting the diverse habitats and soil ecosystem in the Prairie Pothole Region of the U.S. This provision will hopefully protect native sod from being tilled and produced upon.	https://www.rma.usda.gov/en/Fact-Sheets/National-Fact-Sheets/Native-Sod-Guidelines-for-Federal-Crop-Insurance	Crop Insurance	3	7 USC 1508(o)(2)

Table 1. Summary of 2018 Farm Bill Provisions that Impact Soil Health

Farm Bill Title & Section	Program	Provision in 2018 Farm Bill	What it does	Soil health impacts	Links to USDA Agency information	Provision Category[1]	Impact on soil health (1-5)[2]	Link to United States Code
XII Miscellaneous 12507	Other or N/A	Report on absentee landlords, including impact on soil health	Mandates a report from USDA to Congress within 1 year of the 2018 Farm Bill enactment date that assesses the impact of absentee landlords on the long-term economic health of agricultural production. This includes the impact of land valuation and the impact on soil health.	If any negative damage done to long term economic health of agricultural production, including negative impacts on soil health, due to absent landlord, recommendations need to be made to policymakers on how to fix the issues. May result in better soil health on land in agricultural production with absentee landlords.	n/a; previous, similar data: https://www.ers.usda.gov/topics/farm-economy/land-use-land-value-tenure/farmland-ownership-and-tenure/	Data	3	n/a
XII Miscellaneous 12615	Other or N/A	Heirs property and eligibility for NRCS programs	Describes in detail the actions and requirements of an operator on heirs property to obtain a farm number to participate in any USDA programs.	May help inform older owners and assist them in providing proper documentation for an heir to successfully operate the farm, obtain a farm number and apply for federal programs. May assist in heirs eligibility to apply for conservation programs. This is especially important for socially disadvantaged farmers and ranchers.	No agency information available yet	Access	2	7 USC 2266b
XII Miscellaneous 12618	Other or N/A	Report on data on conservation practices and effects on crop yields and soil health.	Within 1 year of enactment, USDA is mandated to find data sets within USDA on the use of conservation practices and their impact on farm and ranch profitability. This includes impacts on crop yields and soil health. Also requires USDA to report to Congress a summary of findings, how the data will be accessible to university researchers and any recommendations to allow access of the data to maximize research potential.	Data generated within USDA regarding soil health will soon be available to universities. This will help coordinate research efforts around soil health. Data will also help corroborate conservation practices impacts on crop yields, which will help guide crop insurance and build a better economic case for producers to adopt soil health practices.	n/a	Data	2	16 USC 3847

Notes:

1. Provisions may fall into more than one provision category. Definitions of Provision Categories.
   Land Protection: relating to taking agricultural land out of production for conservation purposes.
   Structure: broad term used to cover administration changes, definitions, clarifications, or functional changes within an existing program.
   Incentives: provisions pertaining to changes in financial assistance.
   Access: provisions that allow for increased land access opportunities or improved financial and technical assistance to beginning, socially disadvantaged, and veteran farmers or ranchers.
   Data: pertaining to the requirement of data output, analysis, management, collection, plans in any part of program operation.
   Crop Insurance: provisions that deal with crop insurance implementation. Research: relating to programs, funding opportunities, initiatives involving research.
   Funding: changes to program funds, authorization or authorization for appropriations.

2. Impact on soil health scale defined:
   5-Direct soil health initiatives
   4-Direct soil health impact through other initiatives
   3-Indirect impact but soil health may benefit
   2-Organizational or structural support that may help adoption of conservation practices that impact soil health in the near future; or provisions of unknown impact on soil health
   1-Negatively impacts or creates a barrier for soil health

Table 2. Funding Comparison of 2014 and 2018 Farm Bill Programs Relating to Soil Health

Farm Bill Title and Program	2018 Farm Bill	2014 Farm Bill
Conservation Title		
Conservation Reserve Program (CRP)	Annual acreage cap increasing from 24,000,000 acres in fiscal year 2019 to 27,000,000 acres in fiscal year 2023; projected obligations of $9,767,000,000 or an average of $1,953,400 per year	Annual acreage cap declining from 27,500,000 in fiscal year 2014 to 24,000,000 in fiscal year 2018; Total FY 2014-18 obligations of $9,075,000,000 or an average of $1,815,000,000 per year
CRP Transition Incentives Program (TIP)	$50,000,000 for the period of fiscal years 2019 through 2023, including not more than $5,000,000 to provide outreach and technical assistance	$33,000,000 for the period of fiscal years 2014 through 2018
Environmental Quality Incentives Program (EQIP)	$1,750,000,000 for fiscal year 2019 $1,750,000,000 for fiscal year 2020 $1,800,000,000 for fiscal year 2021 $1,850,000,000 for fiscal year 2022 $2,025,000,000 for fiscal year 2023 5% to be allocated to beginning farmers/ranchers and 5% to socially disadvantaged farmers and ranchers	$1,350,000,000 for fiscal year 2014 $1,600,000,000 for fiscal year 2015 $1,650,000,000 for fiscal year 2016 $1,650,000,000 for fiscal year 2017 $1,750,000,000 for fiscal year 2018 5% to be allocated to beginning farmers/ranchers and 5% to socially disadvantaged farmers and ranchers
EQIP Conservation Innovation Grant (CIG) for On-Farm Conservation Innovation Trials	$25,000,000 annually from the amounts for EQIP above	n/a
EQIP Conservation Innovation Grant (CIG) for Air Quality Concerns from Agricultural Operations	$37,000,000 annually from within the annual amounts for EQIP above	$25,000,000 annually from the annual amounts for EQIP above
EQIP Conservation Innovation Grant (CIG) - Other	Determined annually by USDA from within amounts provided annually to EQIP	Determined annually by USDA from within amounts provided annually to EQIP

Farm Bill Title and Program	2018 Farm Bill	2014 Farm Bill
Conservation Stewardship Program (CSP)	$2,959,000,000 for fiscal year 2019 ($1,579,000,000 for existing CSP + $700,000,000 for new CSP + 680,000,000 in carryover funds $2,141,000,000 for fiscal year 2020 ($1,416,000,000 for existing CSP + $725,000,000 new CSP) $1,590,000,000 for fiscal year 2021 ($840,000,000 for existing CSP + $750,000,000 for new CSP) $1,272,000,000 for fiscal year 2022 ($522,000,000 for existing CSP + $800,000,000 for new CSP) $1,247,000,000 for fiscal year 2023 ($247,000,000 for existing CSP + $1,000,000,000 for new CSP)	Acreage cap of an additional 10,000,000 acres each fiscal year with an average national rate of $18/acre; Total FY 2014-FY2018 obligations at $5,958,000,000 or an average of $1,191,600,000 per year
Conservation of Private Grazing Land	$60,000,000 authorized for appropriations annually	$60,000,000 authorized for appropriations annually
Agricultural Conservation Easement Program (ACEP)	$450,000,000 for each of fiscal years 2019 through 2023.	$400,000,000 for fiscal year 2014 $425,000,000 for fiscal year 2015 $450,000,000 for fiscal year 2016 $500,000,000 for fiscal year 2017 $250,000,000 for fiscal year 2018
Regional Conservation Partnership Program (RCPP)	$300 million annually	$100 million annually plus up to 7% of annual funding for ACEP, CSP, and EQIP

Table 2. Funding Comparison of 2014 and 2018 Farm Bill Programs Relating to Soil Health

Farm Bill Title and Program	2018 Farm Bill	2014 Farm Bill
Research Title		
Organic Agriculture Research and Extension Initiative (OREI)	$20,000,000 for fiscal year 2019 $20,000,000 for fiscal year 2020 $25,000,000 for fiscal year 2021 $30,000,000 for fiscal year 2022 $50,000,000 for fiscal year 2023; and each fiscal year thereafter plus $25,000,000 authorized for appropriations annually	$20,000,000 mandatory annually plus $25,000,000 authorized for appropriations annually
Agriculture and Food Research Initiative (AFRI)	$700,000,000 authorized for appropriations annually	$700,000,000 authorized for appropriations annually
Biomass Research and Development	$20,000,000 authorized for appropriations annually	$3,000,000 mandatory annually
Forestry Title		
Healthy Forests Reserve Program	$12,000,000 authorized for appropriations annually	$12,000,000 authorized for appropriations annually

Table 2. Funding Comparison of 2014 and 2018 Farm Bill Programs Relating to Soil Health

ABOUT THE SOIL HEALTH INSTITUTE

The Soil Health Institute is a non-profit that works with its many stakeholders to identify gaps in research and adoption; develop strategies, networks and funding to address those gaps; and ensure beneficial impact of those investments to agriculture, the environment and society.

OUR MISSION: SAFEGUARD AND ENHANCE THE VITALITY AND PRODUCTIVITY OF SOIL THROUGH SCIENTIFIC RESEARCH AND ADVANCEMENT

SOIL HEALTH INSTITUTE

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ABOUT THE NATIONAL SUSTAINABLE AGRICULTURE COALITION

The National Sustainable Agriculture Coalition (NSAC) is an alliance of grassroots organizations that advocates for federal policy reform to advance the sustainability of agriculture, food systems, natural resources, and rural communities.

NSAC's vision of agriculture is one where a safe, nutritious, ample, and affordable food supply is produced by a legion of family farmers who make a decent living pursuing their trade, while protecting the environment, and contributing to the strength and stability of their communities.

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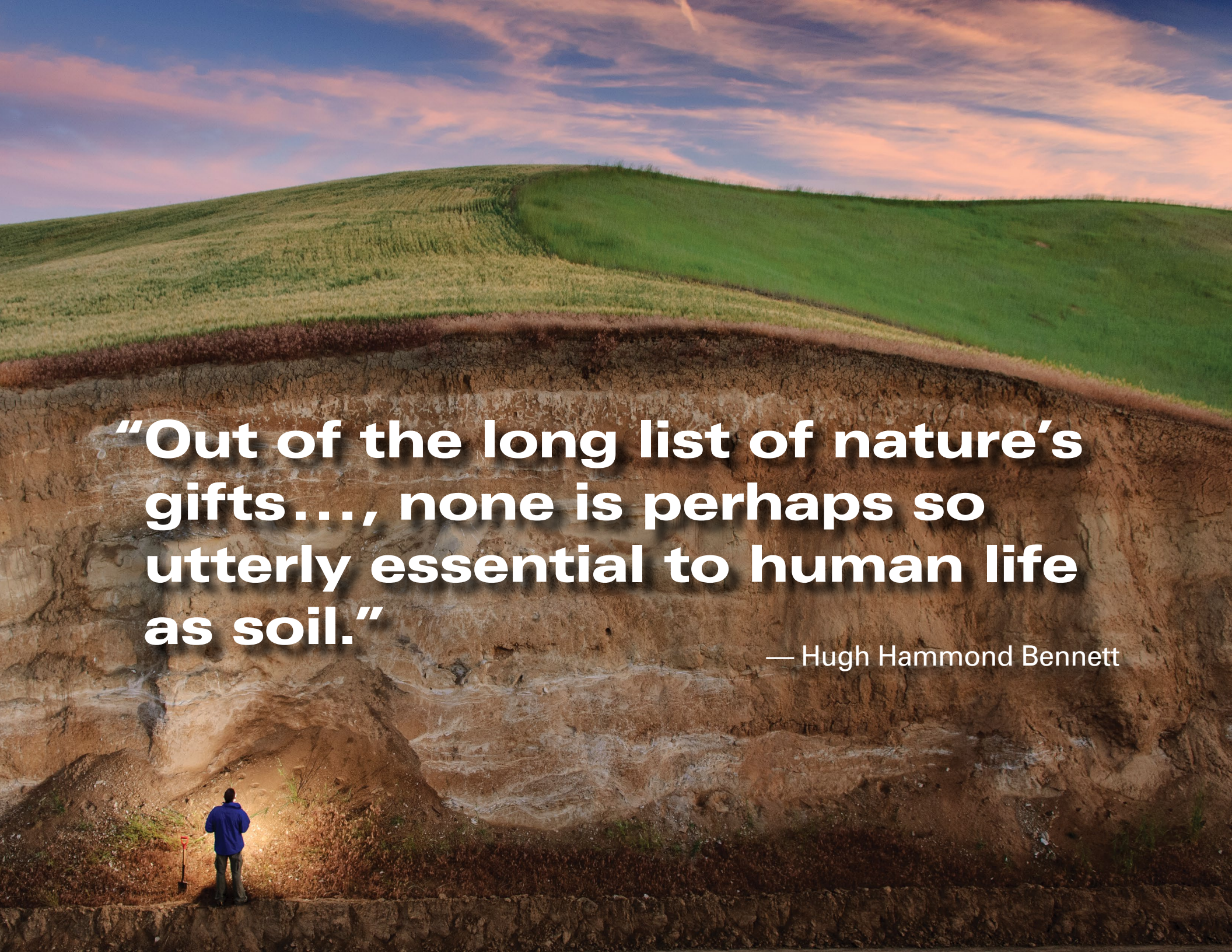
“Out of the long list of nature’s gifts…, none is perhaps so utterly essential to human life as soil.”
— Hugh Hammond Bennett

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