

What Does the 2018 Farm Bill Mean for California and the Environment? Spotlight on the Conservation Programs

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The 2018 Farm Bill largely reauthorizes the same conservation programs from the 2014 Agricultural Act. Funding changes in the Conservation Title will result in an expansion and contraction of the pre-existing primary programs, with impacts to California agriculture and the environment.

On Dec. 20, 2018, the newest Farm Bill, the Agricultural Improvement Act of 2018, was signed into law, replacing and reauthorizing many of the components of the 2014 Agricultural Act. Every four to six years, a new Farm Bill is passed with programs to support farm income, nutrition, and agricultural resource conservation. The Conservation Title is a designated section of the bill designed to support specific environmental objectives, including improvements in soil and water quality. The total allocation of funds to the Conservation Title is largely unchanged under the new bill; however, different programs within the title will expand or contract, with implications for climate, land, and natural resource use over the coming years.

Farming and the Environment

The relationship between agriculture and the environment is one of complex coexistence. The environmental and ecological impacts of agriculture can include soil erosion, groundwater depletion, greenhouse gas emissions, and impacts on wildlife and natural habitats, both terrestrial and aquatic. The magnitude of these impacts depends on the interplay between agricultural practices and their environmental and climate context.

Agricultural practices can be geared to provide environmental services, and this defines an important role of the Farm Bill. The most recent Farm Bill includes provisions aimed at incentivizing agricultural practices that minimize environmental impacts or provide ecological services. The programs can be divided into two primary categories: 1) working lands programs that provide financial incentives for farmers to establish conservation practices on actively farmed lands; and 2) land retirement and easement programs that provide incentives to take land out of production in environmentally sensitive areas. Examples of the former include integrated pest management, cover cropping, and altered tillage practices. Without financial incentives offered through the Farm Bill, many farmers would not introduce these practices, which can incur short-run costs in exchange for long-run, and somewhat diffuse benefits.

The two largest working lands programs are the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP). EQIP is a cost-sharing program to incentivize cover crops, forest stand improvement, prescribed grazing, and improved irrigation. EQIP subsidizes the costs associated with various conservation improvements on actively managed land, including the costs to install structures that limit runoff of fertilizers.

Land retirement and easement programs pay private individuals for long-term or permanent land use changes, typically under 10- to 15-year contracts. The Conservation Reserve program (CRP) and the Agricultural Conservation Easement Program

(ACEP) fall under this category. The larger of the two land retirement programs, CRP, pays farmers annual rental payments, based on both soil attributes and the cash rental value of the land, to convert land from crop production to vegetative cover.

Other conservation programs exist that encompass both working farmland and land-retirement efforts. The Regional Conservation Partnership Program, which was created under the 2014 Farm Bill, was introduced to address watershed-scale or regional conservation concerns, rather than farm-level issues, by leveraging private-public partnerships. In California, recently funded projects included several water conservation and flood capture initiatives.

Brief History and Role of Economics in the Farm Bill

The Conservation Title, which specifies programs related to the environment, was first included in the 1985 Farm Bill. However, iterations of the bill have incorporated provisions for the environment since its creation in 1933 following the Dust Bowl. The CRP originated out of the Soil Bank Program of the 1956 Agricultural Act, but was formally established in 1985 as the program we are familiar with today. EQIP was initiated about a decade later as part of the 1996 Farm Bill.

Conservation programs in the Farm Bill rely primarily on payments for environmental services, whereby farmers are compensated or subsidized for undertaking actions that improve environmental conditions. This stands in contrast to many other environmental policies where environmental “bads,” such as pollution,

are taxed or otherwise limited via regulation.

An ideal agri-environmental policy is one that achieves the greatest net benefits to all those that depend on agriculture and/or the environment. This requires thinking systematically about the costs and benefits associated with farming and the environment, and how different policies stack up. Designing and evaluating programs to meet environmental objectives while minimizing costs to the agriculture industry is a major area of research in agricultural economics.

Over time, environmental programs in the Farm Bill have been improved to more efficiently provide environmental benefits. Newer incentive structures better incorporate heterogeneity in the value of management practices, maximizing the benefits per dollar expended. Similarly, by allowing farmers flexibility in their approaches to environmental best-management practices, diverse, site-specific techniques are being incentivized that maximize the value of conservation spending.

The CRP, for example, has transitioned over time to a more cost-effective incentive structure by implementing benefit-cost targets for enrollment of land in the program. The CRP previously targeted either the most affordable or the most environmentally sensitive land to pay owners to retire land. The program now targets land that exhibits the highest benefit-cost ratio, which is designed to maximize environmental benefit at minimal cost.

Changes in the 2018 Farm Bill

The Conservation Title remains the third largest program on the bill by projected outlays, following the nutrition and crop insurance titles. Funding allocated to agricultural resource conservation remains largely unchanged in the new act. However, some reallocation and reorganization among programs will occur under the

Table 1. Estimated Changes in Spending Outlays under the 2018 Farm Bill (By Fiscal Year, Millions of Dollars)

Title II – Conservation	By Fiscal Year, in Millions of Dollars						
	2019	2020	2021	2022	2023	2019–2023	2019–2028
Sec. 2201, Conservation Reserve Program	38	-52	-110	-80	15	-189	0
Sec. 2301, Conservation Stewardship Program	-25	-358	-796	-1,103	-1,387	-3,669	-12,426
Sec. 2302 and 2308, Environmental Quality Incentives and Conservation Stewardship Program	170	356	539	692	903	2,660	8,451
Sec. 2401, Small Watershed Rehabilitation	2	8	19	29	37	95	317
Sec. 2405, Grassroots Source Water Protection Program	2	2	1	0	0	5	5
Sec. 2406, Voluntary Public Access and Habitat Incentive	10	10	10	10	10	50	50
Sec. 2408, Feral Swine Eradication and Control Pilot	15	25	20	10	5	75	75
Sec. 2601, Agricultural Conservation Easement Program	73	151	177	187	198	786	1,779
Sec. 2701, Regional Conservation Partnership Program	80	141	157	174	191	742	1,742
Subtotal, Title II	365	283	17	-81	-29	555	-6

Source: Congressional Budget Office, (https://www.cbo.gov/system/files?file=2018-12/hr2conf_0.pdf).

Notes: The table lists estimated spending changes relative to a baseline that was calculated assuming the continuation of 2014 Farm Bill provisions.

The location of the CSP program in the bill was moved to the same section as EQIP, which explains the organization of outlays by CBO.

new title. Table 1 shows the estimated changes in spending outlays under the 2018 bill by fiscal year in millions of dollars, as reported by the Congressional Budget Office (CBO) in December 2018. Estimated changes in spending are expressed relative to CBO’s April 2018 baseline projections, which assumed a continuation of 2014 Farm Bill provisions.

With 24 million acres under contract, the largest portion of the Conservation Title budget continues to support the CRP. Over the next decade, spending in this program is projected to remain constant. However, the cap on how many acres that can be enrolled in the program will increase, expanding to 27 million by 2023.

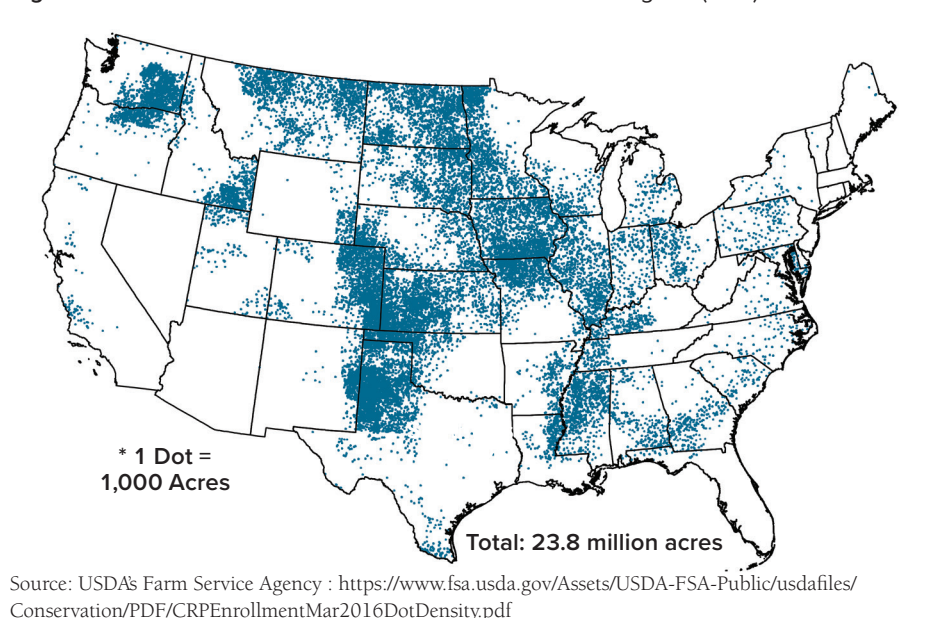
How can CRP spending remain constant while the cap on enrolled acreage increases? The answer lies in changes to the bid limits or county rental rates for CRP contracts. The bill imposes a 10% cut on the maximum CRP rental

rate. Furthermore, if corn and soybean prices continue to decline, then farmers growing those crops may be willing to enroll land in CRP for less. As a result, we may expect to see regional shifts in the location of contracted acres in response to lower bid caps and changing commodity prices.

Figure 1 (on page 8) illustrates enrollment in the CRP in 2016. California had far fewer acres enrolled compared to other agriculturally productive states, due in part to the high cost of land in California and the balance of crops grown there. Since California grows high-value crops with high yields, the opportunity cost of land is generally high. This opportunity cost is capitalized in the land rent and translates to lower enrollment in CRP relative to other states.

Arguably the most significant changes to the Farm Bill pertain to the Conservation Stewardship Program (CSP), where enrollment will likely

Figure 1. 2016 Enrollment in the Conservation Reserve Program (CRP)



be reduced. From 2014–2017, total CSP obligations averaged \$1.1 billion per year, where total obligations are defined by money spent on all binding agreements (contracts and services), either now or in the future. Under the 2018 bill, 2019–2023 funding will drop to an average of \$800 million annually. EQIP, on the other hand, will likely see an expansion of its enrollment. From 2014–2017, total EQIP obligations averaged \$1.42 billion, while the new bill reports annual funding increases that average \$1.86 billion per year from 2019–2023.

The contraction of CSP and expansion of EQIP could have important implications for California agriculture. Based off of data from fiscal years 2009–2017, California received the largest share of EQIP financial assistance obligations of any state, which implies that California stands to gain from an expansion of this program. Yet California ranks as the 24th state in terms of its share of CSP financial assistance obligations based off 2010–2017 numbers. If we assume that the primary beneficiaries of EQIP will gain and the primary beneficiaries of CSP will lose as a result of these changes, then it appears as if California may benefit on balance.

The Congressional Budget Office projects a reduction of \$12.4 billion in estimated outlays for CSP, and a combined increase for EQIP / CSP of \$8.4 billion (Table 1). The net decrease will be offset by the increases in funding to the Agricultural Conservation Easement Program and Regional Conservation Partnership Program, which total \$3.5 billion.

Across all conservation programs, the 2018 Farm Bill will increase short-term funding (first five years), but projects a fairly constant long-term funding outlay over the next 10 years, with a net decrease in projected outlays of \$6 million by 2028.

Conclusion

The new Farm Bill has implications for the environment. It incorporates adjustments to previous environmental policies that may induce land use changes, impacting California agriculture and its relationship to the environment. The greatest impacts due to changes in the Conservation Title will likely stem from expansion of EQIP, contraction of the CSP, and adjustments to rental rates in CRP, which constitute changes to the primary programs.

Overall, the 2018 Farm Bill largely reauthorizes the conservation programs from 2014. It does little to address new, emerging issues in agricultural resource conservation, nor takes a substantially different approach to old issues. The biggest concern around this new bill may not be how the allocation of funding has shifted, but rather what is not being covered. The bill takes small strides towards addressing climate change or inspiring climate-smart agriculture and climate adaptation. Incorporating cost-effective solutions to address a changing climate and other challenges at the interface of agriculture and the environment will define a key role of the agricultural economics community over the coming years.

Authors' Bios

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For additional information, the authors recommend:

Lichtenberg, E. 2018. "Conservation Programs in the 2018 Farm Bill." Available: www.aei.org/wp-content/uploads/2018/10/Conservation-Programs-in-the-2018-Farm-Bill.pdf.

Zilberman, D. and K. Segerson. 2012. "Top Ten Design Elements to Achieve More Efficient Conservation Programs." Available: https://ageconsearch.umn.edu/bitstream/156623/2/Zilberman-Segerson_final.pdf.