

## Introduction

[U.S. sustainability policies, laws, and regulations](#) advance the sustainability of the nation's agricultural and forest systems in many ways. These policies address agriculture's impact on the environment and related topics like worker safety, biodiversity, and the safety of genetically modified crops.

This set of papers summarizes major laws at the federal level, with references to state-level laws in some cases. For each major policy area or law, the paper provides an overview, background on why the policy was enacted, details on the program's operation and administration, and the statutory basis (normally references to the U.S. Code [U.S.C.], the compilation of U.S. federal laws).

The policies covered in this set of papers are not exhaustive, but represent the major laws that affect the crop, livestock, seafood and forestry sectors. In general, these laws either mandate particular actions to safeguard a sustainable environment or prohibit adverse actions – for instance, the Clean Water Act – or provide incentives for voluntary action on the part of producers that will also advance sustainability – for example, the Conservation Reserve Program.

Most of the policies are administered by either the Environmental Protection Agency or one of the agencies of the Department of Agriculture, but several other federal departments also have the leading role on particular policies. The summaries are accurate as of late 2020, and include changes made to several programs by the Agricultural Act of 2018 (2018 farm bill).

## [U.S. Laws and Policies Relevant to Agricultural Sustainability](#)

(by primary Cabinet department or independent agency)

### **Department of Agriculture**

Conservation Compliance

Conservation Reserve Program

Conservation Stewardship Program

Environmental Quality Incentives Program

Agricultural Conservation Easement Program

Technical Assistance and Other Conservation Programs

Coordinated Framework for the Regulation of Biotechnology

National Organic Program

Lacey Act

## **Department of Commerce**

Magnuson-Stevens Fishery Conservation & Management Act

## **Environmental Protection Agency**

Clean Air Act (including air emission aspects of CERCLA and EPCRA)

Clean Water Act

Renewable Fuel Standard and Biofuels Policy

Federal Insecticide, Fungicide, and Rodenticide Act

## **Department of Health and Human Services**

Food Safety Laws (including USDA laws)

## **Department of the Interior**

Endangered Species Act

## **Department of Labor**

Occupational Safety and Health Act

## **CONSERVATION PROGRAMS**

### **Conservation Compliance**

Farmers who produce major crops on highly erodible land without a conservation plan, or convert wetlands to agricultural use, lose federal benefits under a wide range of USDA programs.

**Background:** Beginning in the 1980s, many agricultural policymakers felt that too much highly erodible land, and too many wetlands, were being converted to crop production. Congress and the public felt that farm programs created artificial incentives to put fragile lands into production, potentially leading to undesirable effects: environmental degradation, the use of public money in a manner inconsistent with environmental goals, and agricultural production in excess of market needs. As a result, in the 1985 farm bill, Congress enacted "conservation compliance," which denies farm program benefits to producers who cultivate highly erodible land without a conservation plan or convert wetlands. Because the overwhelming majority of acreage in major field crops is enrolled in farm programs, conservation compliance is effectively binding for most of these farmers since they do not wish to risk the loss of benefits.

**Sodbuster:** The highly erodible land regulations are often referred to as "sodbuster" rules, and those governing wetlands as "swampbuster" rules. The sodbuster provisions require implementation of certain approved conservation practices, as a condition of eligibility for benefits, on highly erodible land. Under certain circumstances, penalties may be graduated rather than a complete loss of all benefits.

In combination with other policies, the sodbuster regulations have materially reduced average soil erosion rates. For example, in 1982 – before sodbuster – the United

States lost more than three billion tons of soil to wind and water erosion. By 2007, this loss had been cut almost in half.

**Swampbuster:** “Swampbuster” regulations are based on a similar approach. Producers who plant specified crops on wetlands or who convert wetlands for agricultural production (even if no production occurs) are ineligible for farm program benefits. Wetlands are defined in terms of the presence of hydric soils, hydrophytic vegetation and other factors. As with sodbuster, there are certain exemptions from the ban on conversion, including wetlands that were converted to cropland before the swampbuster law was enacted.

The swampbuster policies appear to have been effective, in that the number of wetlands converted to cropland was reduced.

Congress significantly expanded conservation compliance in the Agricultural Act of 2014 (2014 farm bill) by including federal crop insurance premium subsidies in the list of benefits that could be lost if a producer is out of compliance with the sodbuster (see above) and swampbuster provisions, depending on the date wetlands were converted and the number of acres involved. The 2014 farm bill also renewed an existing but previously unused program called “sodsaver,” whereby farmers who plant crops on native sod in six specified states will receive lower crop insurance premium subsidies in the first four years of planting.

**Administration and Enforcement:** Two different USDA agencies have important roles in the sodbuster and swampbuster policies. The Natural Resources Conservation Service (NRCS) makes technical determinations, such as whether a particular tract of land is highly erodible, or whether any exemptions apply to a wetland that a farmer wants to convert. The Farm Service Agency (FSA) handles actual enforcement, including penalties.

The sodbuster and swampbuster provisions apply to a wide range of USDA benefits. Among these benefits – which producers lose if they violate conservation compliance – are income support payments, price support loans, disaster payments, farm operating and ownership loans, conservation benefits and now crop insurance subsidies.

**Statutory Authority:** 16 U.S.C. 3801, 3812 and 3822(h).

Read more: <https://nationalaglawcenter.org/wp-content/uploads//assets/crs/R42459.pdf>

## **Conservation Reserve Program**

The Conservation Reserve Program allows farmers to retire fragile lands from cultivation for 10-15 years and implement conservation practices, leading to environmental benefits such as reduced erosion, carbon sequestration and wildlife enhancement.

In recent years, total federal spending on the program has been around \$1.7 billion.

The CRP's environmental benefits have been well- documented. CRP improves water quality by reducing nitrogen and phosphorus runoff in fields. Grass filters and riparian buffers intercept contaminants before they enter waterways. Grass and tree planting reduce nitrate loss, while restored and constructed wetlands convert nitrate into benign atmospheric nitrogen. Wildlife habitat benefits have also been demonstrated through numerous studies; bird populations increased (or previous declines stopped) for numerous species, including prairie pothole ducks, ringed-neck pheasants, sage grouse and northern bobwhite quail. CRP has also been shown to sequester more carbon on private lands than any other federal program – the equivalent of 48 million metric tons yearly, which is the equivalent of taking 9 million cars off the road. – helping to offset greenhouse gas emissions. By focusing on fragile and highly erodible lands, the CRP has reduced cumulative soil erosion since 1986 by more than 11 billion tons. More than three million acres of wetlands have been restored, and 2 million acres of riparian forest and grass buffers have been protected.

**Administration and Enforcement:** The CRP is administered by the Farm Service Agency (FSA), but technical assistance on land eligibility as well as planning and implementing conservation practices is provided by the Natural Resources Conservation Service (NRCS). Under the 2014 farm bill, total CRP acreage will be limited to an eventual 24 million acres as emphasis shifts to programs that target “working” lands with crop production.

**Statutory Authority:** 16 U.S.C. 3831.

Conservation Reserve Program (CRP) in 1985 to retire fragile lands from agricultural production. Today, the CRP includes approximately 20 million acres of land across all 50 states. Land enrolled in the CRP is often highly erodible and cannot be sustainably farmed in accordance with a conservation plan: Its cultivation would lead to unacceptable levels of soil, wind or water erosion. Eligible land normally must have been farmed during a specified prior period, although there are some exceptions. The Agricultural Act of 2014 (the 2014 farm bill) made some grasslands eligible for CRP, up to 2 million acres.

**Program Operation:** Farmers do not simply retire CRP land from production; they must implement approved conservation practices. The practices range from establishing native grasses as a cover to planting trees or establishing permanent wildlife habitat. Farmers can enroll land in the CRP through periodic general signups, and through a continuous signup that includes especially critical areas like riparian buffers, restored wetlands and buffers for wildlife habitat. In general signups, USDA accepts offers from farmers and ranks the offers using a scientifically-developed Environmental Benefits Index (EBI) that measures the proposed conservation practices' effects on water quality, reduced erosion, wildlife habitat and other factors, as well as cost. About 83% of CRP land has been enrolled through general signups, and about 17% through continuous signups.

CRP contracts are binding agreements for 10-15 years, with large penalties for returning land to cultivation earlier than scheduled. In exchange for implementation of the conservation practices specified in the contract, USDA makes annual rental payments to the landowner. Rental payments vary widely by state because of differences in land values and productivity, but in 2020 averaged \$74.47 per acre per year.

## **Conservation Stewardship Program**

The Conservation Stewardship Program provides financial and technical assistance to farms, ranches and forest land to reward existing environmental stewardship and simultaneously to require progress toward additional, and different, stewardship achievements.

**Background:** During the 2000s, Congress and the agricultural community increasingly focused conservation efforts on working lands, moving away from the emphasis on land retirement that characterized policies in the 1980s and 1990s. The Conservation Stewardship Program (CSP) is a successor to the Conservation Security Program, originally created in the 2002 farm bill. Besides being re-named in 2008, the program was expanded from a limited number of watersheds, and three tiers of assistance were streamlined into one, while all contracts now have a 5-year term (previously, some were for 10 years). In 2014, the CSP was further amended to place additional conservation requirements on participants.

**Program Operation:** Cropland, grassland, pasture, range and some forested land are eligible for the CSP. Producers who wish to enroll in CSP must already be meeting a "stewardship threshold" established by the Natural Resources Conservation Service (NRCS) for two priority resource concerns (e.g., soil quality or energy conservation), and must meet or exceed the threshold for an additional priority concern by the end of the five-year contract.

In 2019, expenditures under the CSP totaled almost \$1.5 billion, of which the large majority was financial assistance to producers, with the balance representing the cost of technical assistance. Active contracts during 2019 covered more than 5 million acres. In addition to CSP expenditures, older contracts under the predecessor program, the Conservation Security Program, continued to operate until their expiration; in 2012, these contracts accounted for an additional \$188 million.

**Administration and Enforcement:** The program is operated by the Natural Resources Conservation Service (NRCS) of the Department of Agriculture.

**Statutory Authority:** 16 U.S.C. 3838h-3838n.

H-j and n-q have been repealed.

NRCS evaluates producers' existing and proposed conservation practices with an objective Conservation Management Tool. Enrollment can occur at any time, similar to continuous signup procedures under the Conservation Reserve Program.

CSP payments help offset the cost of producers' conservation activities, including the direct costs of the activities, the income that may be forgone because of stewardship, and the value of expected environmental benefits. CSP also provides specific support to organic and 'transitioning to organic' producers, and payment to ranchers for advanced grazing management plans.

## **Environmental Quality Incentives Program**

The Environmental Quality Incentives Program assists producers in improving conservation stewardship on land that is being used for production of crops, forest or livestock.

**Background:** Whereas conservation programs established in the 1980s and 1990s frequently retired land from agricultural production, the new century saw an emphasis on assistance for "working lands" – those where production continues to take place, but in accord with sound environmental practices. Working lands programs now account for 54% of U.S. Department of Agriculture spending on resource conservation, compared to only 35% in the early 2000s. In addition, whereas older conservation programs focused on crop production, the livestock sector also saw a need for assistance to meet both stewardship goals and public environmental requirements. These factors drove the development of the Environmental Quality Incentives Program (EQIP) in the 2002 farm bill that continue today.

**Program Operation:** EQIP makes payments to producers to offset a portion of the cost of applying conservation practices. In addition, producers may receive payments to help develop individual conservation plans. Payments to each producer are capped in order to focus benefits on smaller operations. Of available funds, 60% are set aside for the livestock sector, including dairy and poultry. In 2018, the program was expanded to help offset startup costs to historically underserved participants and expanded eligibility to include water management entities.

Producers sometimes use third-party experts to provide technical assistance in developing their plans, and also work with the local Natural Resources Conservation Service (NRCS) office to identify conservation practices or activities that are needed on their farms, ranches or forests. The practices are then implemented in accordance with an approved plan. Payments are based on the typical cost of applying the conservation practices that the producer is using, and cover only a portion of the costs, with the producer also contributing.

EQIP provides assistance for perhaps a wider spectrum of environmental improvements than any other USDA program. Examples range from managing the use of manure in a livestock operation to implementing reduced tillage of crops, and from managing wildlife and fish habitat to improving the quality of forest stands.

EQIP includes a number of targeted initiatives. For example, Conservation Innovation Grants help stimulate the development and widespread adoption of innovative conservation practices. CIGs are not specific projects on individual farms but help disperse information among many producers who are eligible for EQIP in order to spur adoption of new technologies or methods. Another initiative is regional, reducing

salinity in the Colorado River Basin in the western U.S. The Agricultural Act of 2014 (the 2014 farm bill) also required that 5% of EQIP funds be used to protect wildlife habitats, incorporating a similar program that had existed under prior law. Still more EQIP initiatives address air quality, on-farm energy conservation, the reduction of fertilizer runoff from agricultural lands, and the transition from conventional to organic production.

EQIP spending has grown steadily in recent years, from just over \$1 billion in 2009 to nearly \$1.8 billion in 2019. Of that, \$1.3 billion went to financial assistance to implement conservation practices, while \$427 million was spent on technical assistance. EQIP contracts that year covered some 13 million acres.

**Administration:** EQIP is operated by the Natural Resources Conservation Service (NRCS) of USDA.

**Statutory Authority:** 16 U.S.C. 3839aa.

Read more: [https://www.nrcs.usda.gov/Internet/NRCS\\_RCA/reports/fb08\\_cp\\_eqip.html](https://www.nrcs.usda.gov/Internet/NRCS_RCA/reports/fb08_cp_eqip.html) and <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/>

## **Agricultural Conservation Easement Program**

The Agricultural Conservation Easement Program works with landowners to limit non-agricultural uses on farm or grasslands and to protect, restore or enhance wetlands.

**Background:** The loss of wetlands has been a concern of citizens and U.S. policymakers for several decades. These ecosystems provide many benefits, including wildlife habitat, water storage and purification, recreation and aesthetic values, and production of food and timber. Although coastal wetlands are well-known, they constitute only about 5% of the total; other types of wetlands include swamps, potholes and playa lakes.

More recently, the encroachment of urban sprawl and development onto productive agricultural land has also become an issue of public debate. Congress previously responded to these concerns through the creation of several programs based on easements – long-term restrictions on land use that landowners voluntarily place on their property in return for government payments. The programs included the Wetlands Reserve Program (WRP), Farmland Protection Program (FPP) and Grassland Reserve Program (GRP). The Agricultural Act of 2014 (2014 farm bill) consolidated these programs into a new initiative called the Agricultural Conservation Easement Program (ACEP) that operates similarly to its predecessor programs.

**Program Operation:** ACEP offers two types of easements: agricultural land easements (ALE) that limit the non-productive use of farm or grasslands, and wetland reserve easements (WRE) to protect and restore wetlands. ALEs generally work through partners such as state and local governments, Native American tribes and non-profit organizations. USDA pays up to 50% of the easement's market value (75% for some environmentally significant grasslands), with partners providing the

remaining financing and making sure the terms of the easement are kept. (In an easement, the landowner retains ownership of the land but accepts certain binding restrictions on the property's use.)

WREs differ from ALEs in their term (they are generally either permanent or 30 years in length) and also in that USDA deals directly with individual landowners and pays up to the full market value of the easement and either fully or partially subsidizes restoration costs depending on the length of the contract.

Landowners have responsibilities, laid out in a contract, to restore, protect or improve wetlands.

Though ACEP is relatively new, its predecessor programs markedly advanced agricultural land and wetland conservation. Since the former WRP's inception, more than 4.4 million acres of wetlands and agricultural lands have been protected.

Federal spending on the WRP totaled \$428.2 million over 366,528 acres in 2019. The WRP interacted with a number of other public policies, including conservation compliance and Section 404 permits under the Clean Water Act, to mitigate the conversion of wetlands. Overall, annual wetland losses of around 500,000 acres were turned around, to the point that in some recent years there were small overall net gains in wetland acreage.

**Administration:** The ACEP is operated by the Natural Resources Conservation Service (NRCS).

**Statutory Authority:** 16 U.S.C. 3865.

Read more:

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/>

## **Technical Assistance and Other Conservation Programs**

Through technical assistance and other programs, conservationists in every part of the United States help bring environmentally beneficial improvements to farms, ranches and forests.

**Background:** The majority of U.S. Department of Agriculture spending on environmental stewardship comes through well-known programs such as the Conservation Reserve Program and a few others, but the Department also offers a number of smaller programs targeted toward specific needs, as well as providing extensive technical assistance to producers outside the structure of particular programs.

**Program Operation:** The Natural Resources Conservation Service (NRCS) is a provider of advice, expertise, information resources and other services to producers, whether or not they are enrolled in any of the agency's programs. A major trend in recent years has involved greater emphasis on "working lands" programs, where some agricultural production continues under environmental guidelines, as opposed to land retirement programs. This shift recognizes the food security needs of a growing world population that is expected to reach 9 billion later this century, encourages production



practices that secure environmental goods. The following list is not exhaustive, and a number of smaller programs also operate within NRCS and other agencies. (Statutory authority is cited at the end of each program description.)

**Technical Assistance:** NRCS has a network of locally- based professional conservationists who serve every county in the United States. The agency helps farmers and other landowners to improve the natural environment by enhancing the management of private lands; improving water quality and wildlife habitat; and developing sustainable agricultural systems, among other activities. NRCS provides assistance through assessing resources, designing conservation practices, monitoring resource levels and evaluating practices that are already in place. Technical assistance does not include any direct financial aid to producers, but it may help them qualify for other NRCS programs that do share costs.

16 U.S.C. 590a-g,  
16 U.S.C. 590q.

**Regional Conservation Partnership Program:** This program, created by the Agricultural Act of 2014, consolidates several older programs that all utilized partner organizations to work with landowners for environmental benefits with an annual budget of \$300 million dollars. These organizations include farmer cooperatives, forestry groups, state and local governments, and others. The program helps producers restore soil, water, wildlife and other natural resources, with 50% of funding dedicated to Critical Conservation Areas, like the Chesapeake Bay Watershed, Longleaf Pine Range, the Colorado and Mississippi River basins, and Western Waters. 16 U.S.C. 3871.

**Emergency Conservation Program:** This program helps rehabilitate farms and ranches that were damaged by natural disasters and develop water conservation methods during severe droughts and was funded at nearly \$7 million in 2018. Funding varies with the occurrence of natural disasters. 16 U.S.C. 2201-2205.

**Emergency Watershed Protection Program:** The EWP reduces hazards to life and property in watersheds damaged by natural disasters by funding disaster cleanup activities or purchasing easements to reduce the risk of future flooding. 2018 funding was \$541 million.

16 U.S.C. 2203, 33 U.S.C. 701b-1.

**Administration:** The Natural Resources Conservation Service (NRCS) of the Department of Agriculture has responsibility for most of these programs, but in several cases cooperates with other agencies, including the Department's Farm Service Agency (FSA) and Forest Service, and the U.S. Fish and Wildlife Service of the Department of the Interior. A few USDA conservation programs, such as the Emergency Conservation Program, are directly administered by FSA rather than NRCS.

Read more about RCP:

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/rcpp/>

ECP: <https://www.fsa.usda.gov/programs-and-services/conservation-programs/emergency-conservation/index>

## **ENVIRONMENTAL SUSTAINABILITY**

### **Clean Water Act**

The Clean Water Act regulates pollutant discharges into Waters of the United States (WOTUS), and affects some agricultural operations, such as large concentrated animal feeding operations (CAFOs) and, in some circumstances, farms that dredge or fill wetlands.

**Background:** The predecessor statute to the Clean Water Act (CWA) dates to 1948, but the law in its current form represents a complete re-write in light of growing environmental concerns. The current law, written in 1972 and amended several times since, was a major expansion of the federal role in regulating water pollution, which had previously been seen as a state or local issue. The CWA seeks to move the nation to clean, abundant water supplies, and its provisions support protection of fish and other organisms in U.S. waters. Among the requirements of the CWA was that municipal and industrial wastewater be treated before being discharged into the nation's waterways.

**Operation:** The CWA affects agriculture in several different ways. Conversion of wetlands to agricultural or other uses is regulated under Section 404 of the Act, which requires a permit under some circumstances when anyone discharges dredged or fill material into waters of the United States. Many normal farming, ranching and forestry activities are exempt from this requirement, but developments that affect the circulation, flow, or reach of existing waters may subject producers to a permitting process. In many cases, key concepts in the Department of Agriculture's "swampbuster" regulations (governing the conversion of wetlands) have been adopted for Section 404 permitting purposes, providing a measure of consistency in administering the two separate programs.

Although many agricultural operations are considered non-point sources of pollution and are not directly regulated by the CWA, the law's prohibition against discharging pollutants into U.S. waters potentially applies to large, concentrated animal feeding operations (CAFOs), defined in terms of the number of animals for various livestock species. Regulations lay out requirements for obtaining permits, filing reports, and developing plans to handle manure from these operations.

The regulations apply to CAFOs that actually discharge pollutants. As a practical matter, CAFOs develop and apply nutrient management plans whether or not they are actually required to obtain a permit under the CWA. Most of these operations' re-cycle manure as fertilizer, either on their own farmland or through arrangements with neighboring farmers. This re-use of nutrients means that chemical fertilizer use is reduced or eliminated on the farms where the manure is applied. Some dairy farms have begun installing methane digesters that transform manure into electricity that powers the farming operation and may also be sold onto the electric grid.

In 2020, the 2015 Clean Water Rule which brought wetlands, ponds, ditches and tributaries of rivers within the CWA was rescinded, restoring the definition and enforcement of WOTUS as it existed prior to 2015.

**Administration and Enforcement:** The Environmental Protection Agency (EPA), an independent federal agency, is the primary administrator of the CWA, but Section 404 permits are issued by the U.S. Army Corps of Engineers. Under EPA's operating system, state-level environmental agencies also play an important part in administering and enforcing the law.

**Statutory Authority:** 33 U.S.C. 1251-1387.

Read more: <https://crsreports.congress.gov/product/pdf/IF/IF11136>

## Clean Air Act and Related Statutes

The United States safeguards public health and the quality of the natural environment by regulating air pollutants under the Clean Air Act and related laws.

**Background:** Like many other environmental issues, public policies dealing with air pollution evolved from purely local or state jurisdiction in the early 20th century to a federal responsibility. A federal clean-air law was enacted in 1955, but major revisions in 1970 reflected growing environmental consciousness and established the government's authority to set air standards nationwide and require the use of technology to improve air quality. Both the USDA and EPA work to set standards for air pollution. In 1998, the agencies established a Memorandum of Understanding (MOU) to share information and work collaboratively to promote clean air and agricultural productivity.

**Operation:** The Clean Air Act (CAA) can affect U.S. agriculture in a variety of ways, and the farm community has increasingly focused on these issues in recent years. Under the CAA, the government establishes National Ambient Air Quality Standards (NAAQS) that strive to protect public health from harmful levels of pollution. In parts of the United States that do not meet a NAAQS (called "non-attainment areas"), state and local governments develop and implement plans to reduce pollutants to acceptable levels. Among the pollutants regulated in this way is particulate matter (PM); the Environmental Protection Agency (EPA) has set standards for both "coarse" PM (particles 10 micrometers or less in diameter, or PM10) and "fine" PM (a diameter of 2.5 micrometers or less, PM2.5). Agricultural operations can be sources of PM10, although these emissions come from a wide variety of industries. As explained below, much current regulatory activity revolves around the development of methodologies that will allow accurate determinations of air emissions, which present major challenges in terms of measurement.

Two separate statutes deal with requirements to report some emissions, including airborne ones. The Emergency Planning and Community Right-to-Know Act (EPCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or "Superfund") were not enacted as agricultural laws, but

they require reporting when threshold quantities of certain substances are released. Among these are ammonia and hydrogen sulfide, which are generated by animal manure. Discussion continues among regulators, Congress and the agricultural community on the appropriate application of CERCLA and EPCRA to agriculture.

Over the past decade, the government and the private sector have intensively studied the question of air emissions from agricultural operations, especially livestock, poultry and dairy farms. Measuring these emissions involves highly complex technical issues, and reliable nationwide, species-specific information has been scarce in the past. As part of an agreement with the Environmental Protection Agency (EPA), several animal agriculture sectors participated in a multi-year National Air Emissions Monitoring Study (NAEMS) to gather baseline emission data from farms in several representative geographic areas. That data is currently in use by the EPA to develop methodologies for producers to determine whether their operations met thresholds for reporting emissions.

**Administration and Enforcement:** The CAA is under the jurisdiction of the Environmental Protection Agency (EPA), an independent agency. As with the Clean Water Act, state agencies play an important role in carrying out the CAA's requirements, establishing rules to bring their jurisdictions into compliance with federal rules. In fact, each state is required to establish a State Implementation Plan (SIP) to identify sources of air pollution and bring them into compliance with federal standards. These regulations on agricultural air emissions may vary from state to state, and producers are encouraged to keep up with changes in regulations and guidelines. The EPA also works closely with an Agricultural Air Quality Task Force established by the U.S. Department of Agriculture; the task force's role is advisory and educational.

**Statutory Authority:** 42 U.S.C. 7401-7671; 42 U.S.C. 9601-9675; 42 U.S.C. 11001-11050

## **Endangered Species Act**

The Endangered Species Act protects both animals and their habitats when they are in danger of extinction. Regulating habitats sometimes has significant effects on industries in the area, including agriculture and forestry.

**Background:** The early 1970s saw enactment of a number of major environmental laws that today form the backbone of U.S. federal efforts to safeguard the natural world.

Among these, in 1973, was the Endangered Species Act (ESA). Under the ESA, the government regulates both the taking of plants and animals whose numbers are diminishing dangerously, and the permissible uses of their habitats.

**Operation:** Under the ESA, the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) are able to designate an animal species as endangered or threatened. Endangered species are those in danger of extinction now;

threatened species are likely to become endangered in the foreseeable future. Over time, species can be delisted if their populations recover. The FWS also regulates each species' "critical habitat," which may include not only areas where the animal is found, but other areas that are essential to its survival (e.g., movement corridors). Listing a species as endangered means that it is illegal for anyone to "take" those animals – meaning to hunt, harass or harm them.

When areas are designated as a critical habitat, the economic impact on agriculture, forestry and other industries can be considerable. Timber employment in some parts of the Pacific Northwest was significantly affected as efforts to preserve spotted owl populations there were implemented. Similarly, in the same region, efforts to safeguard salmon habitat in the Klamath River affected the availability of water for downstream agricultural irrigation and other uses.

In 2020, 640 U.S. species of animals and plants have been listed as endangered or threatened under the ESA and over 1,700 plants and animals have recovery plans in effect.

**Administration and Enforcement:** The ESA is administered by the U.S. Fish and Wildlife Service (FWS), an agency of the Department of the Interior and by the National Marine Fisheries Service (NMFS) in the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA).

**Statutory Authority:** 16 U.S.C. 1531-1544.

## **Federal Insecticide, Fungicide and Rodenticide Act**

The Federal Insecticide, Fungicide, and Rodenticide Act protects human health and the environment by establishing a comprehensive, researched-based regulatory system to govern the use of pesticides in agriculture.

**Background:** U.S. laws began to regulate pesticides as long ago as 1910. The basic law in this area, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), was first enacted in 1947, but dramatically revised in 1972 to reflect the new environmental consciousness of that time, and significantly updated in 1996 to make food standards more stringent and provide additional safeguards for children. It was also amended in 2003 with the passage of the Pesticide Registration and Improvement Act.

Under FIFRA's basic structure, chemical manufacturers are required to prove the safety of pesticides and other chemicals before they can sell them. Although states are able to place further restrictions on pesticides (and some do), FIFRA establishes a common framework for the entire nation. Under FIFRA, a pesticide includes any substance designed to (1) mitigate any pest, (2) regulate, defoliate or desiccate plant growth and (3) nitrogen stabilizers.

Farmers' use of pesticides has been changing in recent years. Between 1996 and 2007, real expenditures on pesticides in agriculture fell an average of 2.4% per year, while quantities used declined an average of 1.4% per year, according to Environmental

Protection Agency (EPA) data. Separate data from the Department of Agriculture show total pounds of pesticides used in U.S. agriculture rose rapidly from the early 1960s to reach 632 million pounds in 1981, primarily due to weed-control needs. However, since then, total pesticide use has trended downward, reaching 516 million pounds in 2008 – an 18% decline. Most U.S. growers adopt some form of Integrated Pest Management (IPM), which uses information on pest life-cycles and environmental interactions to apply chemicals only when needed, managing pest damage economically and with the least possible hazard. The rise in popularity of IPM, GM, and Precision Agriculture have continued these downward trends. In 2018, 90% of corn, cotton, and soybeans had herbicide resistance traits, and 80% of corn and cotton also had insect resistance traits.

**Operation:** FIFRA requires the establishment of tolerances – the maximum amount of pesticide residue that can be on a raw agricultural product at the time it is used. The tolerances are set with an ample margin of safety, and any food that exceeds them is considered unsafe and cannot legally be sold under U.S. food safety laws.

The EPA, which administers FIFRA, requires all new pesticides to be registered. Registration does not simply mean that a chemical is legal but allows its use only on specified crops at particular application rates. Registrations must be supported by scientific research data. Since science advances over time, FIFRA requires pesticides to be re-registered every 15 years. EPA also has the power to cancel or suspend a pesticide's registration at any time.

Some pesticides are classified as "restricted use" and may only be used by "certified applicators" who have undergone training prescribed by EPA. For all pesticides, EPA sets requirements for information that must be on product labels, such as when and how products are to be applied, mixed and stored; when workers can safely re-enter fields after a pesticide is used; and when crops can be harvested.

**Administration and Enforcement:** While the EPA retains high level enforcement of FIFRA, states are the primary enforcers. The Environmental Protection Agency's Office of Pesticide Programs (OPP) regulates all pesticide use in the United States. The Federal Food, Drug, and Cosmetic Act (FFDCA) governs pesticides in food and feed. The EPA administers and enforces FIFRA's requirements with respect to registration and re-registration, the establishment of tolerances and similar matters. The USDA's Office of Pest Management Policy works with the EPA on pesticide review issues and ensure the needs of growers are represented accurately. The Food and Drug Administration (FDA), and Food Safety and Inspection Service (FSIS) of the Department of Agriculture enforce FIFRA regulations.

**Statutory Authority:** 7 U.S.C. 136-136y, 21 U.S.C. 346a.

Read more: <https://www.usda.gov/oce/pest/about>

## **The Lacey Act**

The Lacey Act combats trafficking in “illegal” wildlife, fish, and plants, including wood products.

**Background:** The Lacey Act was first enacted in 1900 to combat the impact of poaching, interstate shipment of unlawfully killed game, and killing of birds for feather trade. The Act was amended in 2008 to include products, including timber, derived from illegally harvested plants. The Act also created new declaration requirements for importing wood products. The primary reasons for the 2008 amendments were to reduce illegal logging and other illegal plant trade globally while expanding worldwide conservation and to increase the value of U.S. wood exports.

**Operation:** The Lacey Act regulates the trade of wildlife and plants and creates penalties for violations. Violations addressed by the Lacey Act involve domestic and international illegal trade of plants and wildlife. The Lacey Act also makes it unlawful for any person to import, export, transport, sell, receive, acquire or purchase in interstate or foreign commerce any plant that has been acquired in violation of any federal or foreign law or regulation.

Under the Lacey Act, the importer is responsible for making sure that imported plants and plant products are legally harvested, processed and imported. As such, all plants or plant products that are imported into the country must be declared, with a few exceptions, at the time of import. The declaration requires importers to provide specific information on the plant or plant products contained in the importation, such as the scientific name (including genus and species); value of the importation; quantity, including unit of measure; and name of the country in which the plant was harvested.

A Lacey Act violation can result in strict penalties that could involve fines for civil penalties or incarceration for criminal penalties and forfeiture in both cases. The primary way for importers to protect themselves from such penalties is to exercise due care in determining the legality of harvest. Enforcement of the Lacey Act is fact-based and uses information gained from foreign governments, NGOs, private citizens, data analysis and industry members, among other sources.

**Administration and Enforcement:** The Lacey Act is operated by the U.S. Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS) and the U.S. Department of Interior’s Fish and Wildlife Service (FWS). APHIS is responsible for the plant provisions of the Lacey Act (including wood products) and FWS is responsible for the wildlife provisions of the Lacey Act. The Department of Homeland Security, which controls U.S. customs and monitors borders through Customs and Border Protection, supports this work.

Separately, FWS is also the primary agency for enforcing the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in the

United States; other agencies, including APHIS, also play a role in CITES enforcement.

**Statutory Authority:** 18 USC 42-43. 16 USC 3371-3378.

## **FISHERY & MARINE CONSERVATION**

### **The Magnuson-Stevens Fishery Conservation and Management Act**

The Magnuson-Stevens Fishery Conservation and Management Act is the primary law that governs fishery management in U.S. federal waters.

The Act is designed to preserve fish stocks for sustainable management.

**Background:** The Magnuson-Stevens Fishery Conservation and Management Act (now known as the Magnuson-Stevens Act, or MSA), was first adopted in 1976 in order to establish and manage domestic fisheries with a focus on efficiency and economic growth. The MSA has since been amended several times, with the most significant changes being made in the 1996 Sustainable Fisheries Act (SFA).

The SFA functioned on the same management structure, but with an increased focus on sustainability. The SFA also adopted the 1995 FAO Code of Conduct for Responsible Fisheries. In 2006, the MSA was reauthorized to strengthen the changes made in the 1996 Act. Goals of the 2006 reauthorization were to increase accountability, strengthen the role of science, emphasize market-based management, coordinate with national environmental laws and increase international cooperation.

**Operation:** Under the MSA, the National Oceanic and Atmospheric Administration's (NOAA) fishing authority, the National Marine Fisheries Service (NMFS), is able to regulate fish stocks to support the long-term health of the nation's marine ecosystem. The MSA defines ten national standards for fishery conservation and management that work to sustain fishery resources, the ecosystems in which they live and the people that depend upon them.

A primary purpose of the MSA is the establishment of eight independent Regional Fishery Management Councils to help regulate and oversee fishery management in federal waters. The MSA explains the role of these regional councils and describes their functions and operating procedures. Each council is responsible for developing Fishery Management Plans (FMPs) to regulate commercial fishing within its geographic region.

All FMPs must comply with MSA's ten national standards. For example, all FMPs must specify objective and measurable criteria for determining when a stock is overfished or when overfishing is occurring, and to establish measures for rebuilding the stock. FMPs must also establish a mechanism for specifying annual catch limits at a level that prevents overfishing.

The annual catch limits and accompanying accountability measures were officially put in place for all federally managed fisheries. Pursuant to the MSA, NOAA is required to



provide an annual report to Congress on the status of U.S. fisheries. The 2019 Report on the Status of U.S. Fisheries reported that overfishing is at a record low, with 93% of fish stocks being fished at an appropriate rate. Since 2000, more than 47 at-risk fish populations have been restored.

**The 10 national standards defined by the MSA are mandated to:**

1. Achieve optimum yield and prevent overfishing
2. Use best available scientific information
3. Manage individual stocks as a unit
4. Allocations must be fair and equitable, promote conservation and prevent excessive shares
5. Consider efficiency in utilization; not have economic allocation as sole purpose
6. Allow for variations and contingencies
7. Minimize costs, avoid duplication
8. Consider fishing communities to provide for their sustained participation and to minimize adverse economic impacts
9. Minimize bycatch and bycatch mortality
10. Promote safety of human life at sea

**Administration and Enforcement:** The MSA is operated by the National Marine Fisheries Service (NMFS), part of the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce.

**Statutory Authority:** 16 U.S.C. 1801-1883.

**The Marine Mammal Protection Act**

The Marine Mammal Protection Act provides for the protection and conservation of all marine mammals within the waters of the United States.

**Background:** The U.S. Marine Mammal Protection Act (MMPA) was enacted in 1972 in response to increasing concerns that some species of marine mammals were in danger of extinction or depletion as a result of human activities such as overhunting, overfishing and unscrupulous trade. The Act set forth a national policy to protect all marine mammal species and their habitats in an effort to maintain sustainable populations. The MMPA was the first legislation of U.S. Congress to mandate an ecosystem approach to natural resource management and conservation.

**Operation:** The Marine Mammal Protection Act prohibits the “take” of marine mammals in U.S. waters, unless the take is authorized by the designated U.S. regulatory authorities. This means people may not harass, hunt, capture or kill any marine mammal, regardless of the species’ population status. In addition, the MMPA also makes it illegal to import, export or sell marine mammals and any marine mammal parts or products. The MMPA protects all species of marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters and polar bears within the waters of the United States.

The MMPA provides for prohibitions, required permits, criminal and civil penalties, and other aspects of protecting marine mammals. Permits for the take of a marine mammal may be issued only for the following activities:

- Scientific research
- Enhancing the survival or recovery of a marine mammal species or stock
- Commercial and educational photography
- First-time import for public display
- Capture of wild marine mammals for public display
- Incidental take during commercial fishing operations
- Incidental take during non-fishery commercial activities

**Administration and Enforcement:** The Marine Mammal Protection Act is managed by the U.S. Department of Interior's U.S. Fish and Wildlife Service (Service) and the National Marine Fisheries Service (NMFS), which is part of the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. The Service is responsible for the management and conservation of sea and marine otters, walrus, polar bear, three species of manatees and dugong. The NMFS is responsible for the management and conservation of pinnipeds other than walrus (i.e., seals and sea lions) and cetaceans (whales, dolphins, and porpoises).

**Statutory Authority:** 16 USC 1361-1407.

## FOOD SAFETY LAWS

### Food Safety Laws

U.S. federal agencies enforce strict standards to ensure the safety of foods, using internationally accepted methods, notably Hazard Analysis and Critical Control Point (HACCP) systems.

**Background:** U.S. food safety regulation dates to the early 20th century, when unsafe practices and tainted products in the meatpacking industry created pressure for a federal role. Scientific advances in recent decades have moved food safety regulation far beyond the traditional "organoleptic" model where contamination was only what an inspector could taste, touch or smell. U.S. food manufacturing systems are now built around Hazard Analysis and Critical Control Point (HACCP) principles, with extensive product testing, redundant measures to ensure safety, and constant attention to biosecurity and other protective measures.

**Operation:** A variety of federal and state agencies have a role in food safety, but the two primary federal regulators are the Food and Drug Administration (FDA) and the Food Safety and Inspection Service (FSIS). FSIS regulates meat, poultry and processed egg products. The basic FSIS model is continuous inspection in slaughter plants – i.e., an inspector must be physically present whenever the plant is operating – with

frequent but not continuous inspection at processing facilities that do not slaughter animals or break eggs, e.g., sausage plants.

Since 1996, meat and poultry plants have been required to develop HACCP plans. Under HACCP, the burden is on the regulated facility to demonstrate that its procedures ensure safe products. HACCP is widely accepted worldwide as the best way to minimize foodborne illness and other hazards. HACCP commences with analyzing hazards and involves the identification of Critical Control Point (CCPs) – stages in food processing where hazards must be controlled – and the use of monitoring, corrective action, verification, validation and record-keeping to minimize risk.

Foods that are not under FSIS's jurisdiction are the responsibility of the FDA, which has broad powers to demand records, seize foods, order recalls and take other steps when it believes products are adulterated or misbranded. (FDA also regulates animal feed.) All FDA-regulated food facilities are subject to periodic inspections. FDA also acts in response to foodborne illness outbreaks, prompting recalls and other steps to get unsafe foods out of commerce.

Congress gave FDA major new powers in the Food Safety Modernization Act (FSMA). This law is the most thorough revision of FDA's authorities since the 1930s. Among FSMA's major themes is a requirement for all food and feed facilities to implement preventive controls – essentially incorporating all the elements of HACCP plans. In addition to the sweeping new regulations on domestic industry, FSMA places new emphasis on ensuring the safety of imported foods, both through stepping up FDA's own offshore presence and by accrediting third parties who will certify foreign food facilities' safety. Regulations to implement FSMA, filling hundreds of pages in the Federal Register, became final in 2015.

**Administration and Enforcement:** The two major food safety agencies are the Food and Drug Administration (FDA) within the Department of Health and Human Services (HHS) and the Food Safety and Inspection Service (FSIS) within the Department of Agriculture. The Centers for Disease Control and Prevention (CDC), also part of HHS, has a major role in monitoring and reporting outbreaks of foodborne illness and works closely with FDA in addressing outbreaks. Health agencies within the states also play a role, in many cases carrying out inspections and other tasks for FDA.

**Statutory Authority (partial):** 21 U.S.C. 301-399a; 42 U.S.C. 201; 21 U.S.C. 601-695; 21 U.S.C. 451-472; 7 U.S.C. 1902, 1904.

## **BIOTECHNOLOGY**

### **Coordinated Framework for the Regulation of Biotechnology**

Biotechnology has brought major production efficiencies to some U.S. crops, and is regulated by three federal agencies under a coordinated framework to ensure the safety of genetically modified crops.

**Background:** Genetically modified (GM) crops are widely grown around the world, and in the United States they constitute a majority of prominent field crops such as corn, cotton, and soybeans. Farmers have improved crop varieties through breeding over thousands of years; biotechnology uses modern science to introduce beneficial traits such as tolerance to drought, particular herbicides, or insect protection. The resulting efficiency mean lower costs for farmers, less use of synthetic chemicals in many cases, and affordable food supplies for consumers. While GM technology has sometimes been controversial, most U.S. producers have argued that GM crops typically produce higher yields, and involve less tilling, watering, and chemical use, which is more sustainable for producers, consumers, and the environment. Additionally, developments in Precision Agriculture have given new insight to producers so GM crops can be tailored down to GPS coordinates.

In 2020, GM crops accounted for 95% of soybeans planted in the U.S., 88-91% of all cotton and 82-89% of corn. Widespread adoption testifies to the advantages of these crops. Herbicide-tolerant crops offer environmental and management benefits, while insect-protected crops help to increase yields or reduce insecticide use. Some GM crops also make it more feasible for farmers to reduce erosion through conservation tillage and cut down on water and chemical runoff, while also adding organic matter to soils.

**Program Operation:** Biotechnology products in the United States are regulated according to a system, the Coordinated Framework for Biotechnology, established by the Office of Science and Technology Policy in 1986. The regulation is handled by three agencies, and each product may be subject to one or all of the following regulatory agencies:

**U.S. Department of Agriculture Animal and Plant Health Inspection Service – APHIS’** role is to ensure that plants with introduced traits are safe for agriculture and the environment. The agency has oversight of field testing, interstate movement and importation of plants developed through biotechnology. It reviews scientific information prior to authorizing field-testing of biotechnology-derived plants through either a permitting or notification process to ensure field trials are safely conducted.

Prior to unrestricted commercialization, APHIS must complete a plant pest risk and an environmental risk assessment, with an opportunity for public input.

**The Environmental Protection Agency -** The EPA regulates any pesticide that may be present on and in food or animal feed and sets tolerance levels to provide a high margin of safety for all consumers. This includes plants developed through biotechnology. EPA has responsibility to assess the safety of a protein or trait that confers a pesticidal property in terms of human and animal consumption, as well as for the environmental and non- target organisms. EPA also regulates the use of herbicides over new plant varieties that are tolerant to that herbicide, as part of its overall regulatory authority over herbicides.

**Food and Drug Administration, Center for Food Safety and Nutrition -** The FDA’s CFSAN imposes on foods developed through biotechnology the same regulatory requirements it uses to safeguard all foods in the marketplace. The FDA has both pre-

market and post-market authority to regulate the safety and labeling of all foods and animal feed.

Foods from biotechnology are judged on their individual safety and nutrition, not the methods used to produce them. Under federal law, the producer of a food is legally required to ensure its safety for consumers, and FDA may pull from the market any foods found to be unsafe.

Since 1992, FDA has used a voluntary review process for biotechnology foods to determine whether these foods are substantially equivalent to their traditional counterparts. Over 100 such products have been reviewed, and none has been found to pose a safety concern. All foods and feeds from GM crops currently on the market have undergone a prior consultation process with FDA to make certain that they meet FDA's standards.

**Administration and Enforcement:** Authority is shared among the Animal and Plant Health Inspection Service (APHIS) of the Department of Agriculture, the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA) of the Department of Health and Human Services.

**Statutory Authority:** 7 U.S.C. 104, 7 U.S.C. 136-136y, 21 U.S.C. 346a, 21 U.S.C. 301-399a

## **USDA NATIONAL ORGANIC PROGRAM**

### **National Organic Program**

The National Organic Program provides rigorous standards, under the widely-recognized USDA Organic seal, for the production of organic crops and livestock products, giving consumers confidence that the organic foods they purchase meet their expectations in the fastest-growing industry segment.

**Background:** Both demand and production of Certified Organic commodities have grown rapidly in the United States. In 2016, US Farms and Ranches in the US sold approximately \$7.6 billion in Organic goods, up 23% from 2015. Of that, 4.2 billion was from crops, and 3.3 billion from livestock, dairy, poultry, and poultry products. The number of Certified Organic farms increased by 11% to 14,217, and total acres increased 15% to 5 million acres.

In the early 2000s, organic sales grew by double digits each year. Currently, growth has slowed to single digits on a larger base but still outpaces conventional sales growth.

Adoption of organic systems is highest in the fruit and vegetable sector, and low for major field crops, with dairy and livestock in between. Overall, only a small portion of crop and pasture acres (less than 1%) were certified organic by 2016; however, the numbers of organic farms have nearly doubled since 2011, the first available year for research.

**Program Operation:** Since 2000, USDA's Agricultural Marketing Service (AMS) has set standards for organic foods in response to a mandate from Congress. AMS defines "organic" as "a labeling term that indicates that the food or other agricultural product has been produced through approved methods that integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity. Synthetic fertilizers, sewage sludge, irradiation, and genetic engineering may not be used."

The USDA organic seal gives consumers the assurance that the product they are buying is in fact organic and has been produced under standards that meet consumer expectations for organic products.

AMS administers the National Organic Program (NOP) but receives advice from its National Organic Standards Board (NOSB), which comprises organic farmers and other experts.

The NOP makes decisions on questions like which substances (e.g., feed additives) are allowed to be used in organic production, and which are prohibited.

The "USDA Organic" seal is not something that farmers can simply adopt on their own. Qualifying as a certified organic farm is a multi-year process with strict standards. Each farm is certified, and then re-certified annually, by a third-party independent agent who, in turn, must be accredited through the NOP.

**Administration and Enforcement:** The National Organic Program is operated by the Agricultural Marketing Service (AMS), an agency of the Department of Agriculture. Certification under the program is carried out by independent third parties who must be accredited by AMS. Violations of NOP rules are subject to both financial penalties and suspension or revocation of a farm's organic certification.

**Statutory Authority:** 7 U.S.C. 6501-6521.

## **BIOFUELS**

### **The Renewable Fuel Standard and Biofuels Policy**

Under the Renewable Fuel Standard, the United States uses biofuels to meet about 10% of its gasoline needs, utilizing fuels produced under requirements for net reductions in greenhouse gas emissions.

**Background:** U.S. energy policies have related but distinct objectives, seeking to enhance domestic fuel production, reduce reliance on imports, and improve the environment through reducing both the absolute level of fossil fuel use (thus lowering greenhouse gas emissions), and fuel-related pollution such as ground-level ozone and smog. Biofuels, notably ethanol and biodiesel, have been viewed by Congress as meeting these objectives, and have also been promoted as a source of jobs and farm-based prosperity in rural America. Debates over

important aspects of biofuels, such as the size of future mandates for their use, continue.

**Program Operation:** The Renewable Fuel Standard (RFS), first adopted in 2005 and significantly expanded in 2007, establishes annually-increasing volume requirements for the use of renewable biofuels in the U.S. fuel supply, up to an eventual total in 2022 of 36 billion gallons.

There are separate mandates for specified quantities of total biofuels (which includes conventional corn-based ethanol), advanced biofuels (a category that includes biodiesel and sugarcane-based ethanol among others) and cellulosic fuels – which have so far seen extremely limited commercialization.

These mandates are “nested” in such a way that a higher- priority fuel can be used to meet requirements for a lower- priority fuel, e.g., biodiesel qualifies as an advanced biofuel but may also be used to meet the total biofuel requirement that would otherwise be met through corn ethanol. The RFS assigns fuels to the various categories on the basis of their life-cycle greenhouse gas reductions compared to conventional gasoline, and the Environmental Protection Agency (EPA) conducts a rigorous analysis of each fuel “pathway” that is proposed to qualify for the RFS.

The RFS is a mandate on fuel refiners and importers, who are assigned an individual percentage share of the national RFS each year. These “obligated parties” show compliance with the mandate through Renewable Identification Numbers (RINs), which are generated through the production of biofuels but may also be purchased in a secondary market. Biofuel producers must retain third-party engineers to verify that their production practices meet RFS guidelines.

Biofuels – still mostly corn ethanol – are now near 10% of the U.S. gasoline supply, a level referred to as the “blend wall” because a 10% ethanol mixture has generally been the maximum level consistent with most automobile warranties. If the RFS mandate for corn ethanol (13.8 billion gallons in 2013) exceeds 10% of the gasoline supply, the blend wall has been reached. The wall could then only be overcome through the use of blends above 10%. The Environmental Protection Agency (EPA) has approved up to a 15% blend in later-model automobiles, but few service stations have offered the product so far. Auto-makers also manufacture flex-fuel vehicles which can use up to 85% ethanol, but the fueling infrastructure has not developed in most places. RFS mandates for 2019 have been finalized, with the current EPA administration proposing recently that no additional fuel control measures are needed to mitigate air quality impacts of required renewable fuel volumes.

The RFS is the primary federal policy tool encouraging biofuel use (previous federal tax credits and import charges for ethanol have expired, although a federal biodiesel tax credit may be extended). The U.S. Department of Agriculture- and some states- also administer programs aimed at encouraging biofuel production in various ways.

**Administration and Enforcement:** The RFS is under the jurisdiction of the Environmental Protection Agency (EPA).

**Statutory Authority:** 42 U.S.C. 7545.

## **LABOR**

### **Occupational Safety and Health Act**

Workplace safety laws provide general protections to workers and additional safeguards specific to production agriculture.

**Background:** A safe and healthful workplace is important for all workers. Farmers and agribusiness operators value their workforce and strive to ensure safety at all times. In the United States, workplace safety is governed by the Occupational Safety and Health Act (OSH Act), which is administered by the Occupational Safety and Health Administration (OSHA).

Agriculture is an industry with some inherent dangers that can be minimized through appropriate investment, sound management, comprehensive worker training and other steps. Although on-the-job risks cannot be completely eliminated, they can and must be reduced. OSHA's mission is to help employers and employees reduce on the job injuries, illnesses and deaths by enforcing national standards for compliance. Since its establishment in 1970, workplace fatalities have dropped by more than 65%, and work-related injury and illness rates have declined by 67%.

**Application to Agriculture:** OSHA's rules and inspections affect the agricultural industry in many ways. In fact, there are specific standards for agricultural operations that regulate agriculture and farm work. Standards for dust concentrations help avoid explosions in grain elevators, sugar refineries and other facilities. Some standards for limiting exposure to specific chemicals, such as cadmium, apply to agriculture. In crop, livestock and forestry production, several specific OSHA requirements are particularly important.

**The slow-moving vehicle (SMV) emblem** must be affixed to vehicles (such as tractors) that travel below 25 miles per hour on the road. The emblem alerts motorists and reduces the danger of collisions.

**The anhydrous ammonia standard** sets requirements for tanks on farm vehicles, including how they are to be filled, how the ammonia is to be applied and what information is to be given to employees.

**The logging standard** covers environmental conditions, clothing and personal protection, equipment and other aspects of logging for pulpwood or timber.

**The temporary labor camp standard** specifies how sites for temporary housing are to be selected, building construction standards, space, sanitation, cooking and eating space, toilet facilities and a variety of other requirements.

**The roll-over protection standard** requires protective structures on all tractors above 20 horsepower, with a few exceptions. Seatbelts must be installed and employee training is required.



**The agricultural machinery guarding standard** requires that all equipment have a completely guarded power take off (PTO) drive. The regulations specify signage, safeguards against automatic re-start of equipment, and employee training. OSHA also sets standards for protective frames and enclosures on tractors.

**Administration and Enforcement:** The OSH Act is enforced by the Occupational Safety and Health Administration (OSHA), an agency of the Department of Labor. OSHA enforces the OSH Act on farms with 10 or more employees.

**Statutory Authority:** 29 U.S.C. 651.

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