

US
SUSTAINABILITY
ALLIANCE

U.S. SUSTAINABLE AGRICULTURE: LAWS, POLICIES, AND PROGRAMS

AN OVERVIEW

American agricultural producers, including farmers, ranchers, fishermen, and forest managers, are stewards of half the land mass in the United States and many of its waterways.

These producers provide the nation and much of the world with an abundant supply of food, fiber, paper, and many other products – and provide employment to nearly 20 million people.

It's a reality only possible through the sustainable and long-term management of natural resources.

Despite common misconceptions of U.S. agriculture as being uniformly large, corporate, and environmentally damaging – supported by a government that's behind the curve on sustainability – the U.S. government and its farmers, fishermen, and forest managers have led conservation and natural resource protection for well over a century and have done so mostly on family farms.

In fact, the first federal agency dedicated to natural resource conservation dates back to 1871 and the creation of the U.S. Commission of Fish and Fisheries - the predecessor to today's U.S. Fish and Wildlife Service. Its goal was to study declining food fish populations in the United States and recommend ways to reverse the trend.

Today, the U.S. Department of Agriculture (USDA), through a number of agencies and initiatives, provides a range of incentives, education, research, technical assistance, and regulations to support growers in state-of-the-art conservation and pollution management strategies.

Consequently, the nation's agricultural growers take part in the U.S. federal government's largest conservation programs – worth billions of dollars each year and protecting millions of acres.

As scientific understanding has evolved and society's environmental awareness and standard of living grow, U.S. federal policies have expanded to include water pollution controls, species and habitat protection, climate-smart agriculture, and biodiversity incentives, cementing the U.S. as a leader in natural resource protection and sustaining the nation well into the future.

SOIL & U.S. SUSTAINABILITY POLICY

Far more than just the ground beneath our feet, the soil is the foundation of a healthy and thriving agricultural sector, society, and planet, as the microorganisms found in soil sustain life on Earth.

Soil is also essential for purifying water, building biodiversity, storing carbon, and mitigating the effects of climate change. Because of its key role in ecosystem support and climate action, conserving soil and promoting soil health is fundamental to the success of U.S. agricultural sustainability.

The U.S. government has prioritized soil health for nearly a century. Following the devastating impacts of the 1930s Dust Bowl, caused in part by soil erosion due to unsustainable farming practices, the U.S. passed its first national soil conservation policy in 1935. It established the Soil Conservation Service, now known as the [National Resources Conservation Service \(NRCS\)](#).

CURRENT STATUS

Since the 1930s, the U.S. government has prioritized research, education, and financial and technical assistance programs to support soil conservation and soil health. Thanks in no small part to government-backed research, we now know that soil is not only the cornerstone of agricultural productivity, but it is also vital to other crucial environmental and social goals, including biodiversity, water quality, and carbon sequestration.

In recent years, the United States has pursued policy initiatives that use soil carbon management as a method of removing carbon from the atmosphere as an important part of its climate change strategy.

U.S. POLICY AIMS TO IMPROVE SOIL HEALTH BY DEVELOPING POLICIES, PROGRAMS, AND INCENTIVES BUILT AROUND FOUR PRINCIPLES:

MINIMIZE SOIL DISTURBANCE

MAXIMIZE SOIL COVER

MAXIMIZE BIODIVERSITY

MAXIMIZE THE PRESENCE OF LIVING PLANTS AND ROOTS

KEY EVENTS

1930

Triggered by soil erosion, drought, and high winds, the Dust Bowl begins, underscoring the urgent need for a federal soil conservation policy.

1935

The Soil Conservation Service (SCS) is established - renamed the Natural Resources Conservation Service (NRCS) in 1994 - and with it the first agency devoted to soil conservation.

1985

The Farm Security Act (aka the Farm Bill) mandates, for the first time, a requirement that farmers and ranchers adopt soil conservation practices on highly erodible land and protect wetlands as a condition to access government programs and assistance.

2018

The 2018 Farm Bill designates soil health as a priority in managing the Conservation Stewardship Program (CSP), the largest federal conservation program.

2022

The Inflation Reduction Act includes a historic increase in funding for soil health activities related to carbon sequestration and reducing soil carbon loss.

KEY U.S. SOIL HEALTH AND SUSTAINABILITY POLICIES AND LAWS

THESE ARE AMONG THE MAJOR U.S. LAWS AND POLICIES THAT PROTECT SOIL HEALTH AND REDUCE EROSION:

1935

SOIL CONSERVATION ACT established the U.S. Department of Agriculture's Soil Conservation Service (SCS) – renamed the Natural Resources Conservation Service (NRCS) in 1994 – and SCS's Conservation Technical Assistance (CTA) program. The Act authorized SCS to aid farmers in planning and implementing approved conservation measures to protect agricultural land from soil erosion. The CTA program was followed in 1936 by the creation of the Agricultural Conservation Program (ACP), a voluntary program that provided cost-sharing assistance to farmers and forest managers for implementing soil conservation practices.

1956

AGRICULTURAL ACT established a two-part Soil Bank, which included a program to reduce surplus commodity crops and took 29 million acres out of production. The Soil Bank led to the creation of the Conservation Reserve Program (CRP) in 1985, which provides long-term contracts to farmers to retire unproductive farmland in exchange for payments and assistance in covering the ground with vegetation, helping to promote soil health and biodiversity.

1985

FOOD SECURITY ACT (AKA THE FARM BILL) This comprehensive piece of legislation, typically renewed every five years, outlines – among other things – funding for growers and landowners for conservation practices, including soil health and erosion prevention. The 1985 Farm Bill mandated that landowners have a farm-level conservation plan on highly erodible land in order to access agricultural financial assistance, such as crop insurance, encouraging sustainable land management. It also established the Conservation Reserve Program (CRP) to prevent crop surpluses and address conservation issues.

U.S. SOIL HEALTH AND SUSTAINABILITY PROGRAMS

Often enabled by the above laws and policies, these are the four main areas of U.S. federal soil health programming:

SOIL CONSERVATION FUNDING AND ASSISTANCE

Among the tools the U.S. government uses to encourage sustainability, it provides financing to farmers, ranchers, and forest managers for conservation programs, including protecting soil, and links financial benefits to conservation practices. Here are some of the key financial programs:

- Federal agricultural policy has long included conservation compliance provisions for growers on highly erodible land or those who have wetlands. These require growers who receive certain federal benefits, such as crop insurance or commodity subsidies, to implement conservation measures that protect soil health, wetlands, and other natural resources.
- Administered by the NRCS, the [Conservation Stewardship Program \(CSP\)](#) is the largest federal conservation program by area enrolled, with [70 million acres](#) (28.3 million hectares) of productive farmland and forests currently enrolled as of 2022. CSP provides technical and financial assistance in five-year contracts to farmers, ranchers, and forest landowners for conservation activities, including those that pertain to soil health and erosion protection, such as cover cropping, crop rotation, and rotational grazing.
- A pilot initiative launched in 2018 under CRP and renewed in 2021, the [Soil Health and Income Protection Program \(SHIPP\)](#) enables farmers to enroll environmentally sensitive land in short-term conservation contracts in the prairie pothole states of Iowa, Minnesota, Montana, North Dakota, or South Dakota. Farmers adopting soil health practices, such as cover cropping, are eligible for payments through this program.
- Administered by the NRCS, the [Environmental Quality Incentives Program \(EQIP\)](#) is the largest conservation program for working agricultural land. It provides technical and financial assistance to farmers, ranchers, and forest landowners for land under active agricultural production to address conservation concerns, including working to reduce soil erosion and improve soil health. Some examples of EQIP initiatives related to soil health include:
 - EQIP funds some cover crop initiatives in the Midwest that allow farmers who practice row cropping to grow crops like winter rye, clover, and radishes between growing seasons to prevent erosion, improve organic matter, and nutrient retention.
 - In California, EQIP funded the planting of native grass on some land impacted by wildfires, protecting the exposed soil from further erosion.





RETIRING AND RESTORING LAND

Another tool for restoring and protecting soil is taking land out of productive use and covering it with vegetation. Here are the key federal programs that support land retirement:

- The [Conservation Reserve Program \(CRP\)](#) is the largest land conservation program administered by the Farm Service Agency (FSA). Under CRP, growers remove environmentally sensitive land from agricultural production under 10-to-15-year contracts and replant the land with protective vegetation in exchange for rental payments. [More than five million acres entered CRP in 2023](#). The long-term goal of the program is to re-establish valuable land cover to help prevent soil erosion as well as to improve water quality and reduce the loss of wildlife habitat.
- One example of how CRP protects soil health, Mississippi farmers enrolled highly erodible land along the Upper Mississippi River Basin into the CRP, establishing grass buffers and wetlands, which helped to stabilize the soil and prevent sediment from entering the river.



SOIL HEALTH EDUCATION AND TECHNICAL ASSISTANCE

Education and technical assistance form the basis of soil health. Much of the U.S.'s soil health education is advanced by the Natural Resources Conservation Service (NRCS) and its Soil Health Division. The USDA and NRCS provide soil health education through:

- Lesson plans, educator guides, soil quality test kits, peer-reviewed soil research, soil health posters, and other educational resources about soil health on their website.
- In-person and online workshops, webinars, conferences, courses, and training sessions on soil health and soil management, some organized through local USDA Service Centers.
- The USDA's ["Unlock the Secrets in the Soil"](#) initiative is a series of 41 mostly short videos that aim to increase awareness of soil health issues, promote the adoption of soil health practices, and include numerous farmer profiles of soil health techniques.

RESEARCH AND DATA

The U.S. dedicates significant resources to scientific research into soil health, agricultural productivity, and sustainability. This research informs policymakers and land managers about best practices to improve soil health and reduce soil erosion.

- Under the USDA's [Agricultural Research Service \(ARS\)](#), there are currently over 200 individual research projects on soil health and more than two dozen labs studying soil health around the United States. Areas of research include crop rotation and cover cropping, conservation tillage, including no-till farming, and soil carbon sequestration techniques.
- The [National Cooperative Soil Survey \(NCSS\)](#), managed by the NRCS, classifies and maps soils across the United States. There is also a [Web Soil Survey](#) that provides agricultural producers, researchers, and other stakeholders access to soil and related information.



WATER & U.S. SUSTAINABILITY POLICY

Access to clean, abundant water is vital to everything we do, from cooking and cleaning to running businesses and farms.

Growing populations and intensifying industry, agriculture, and urban development have posed serious challenges to water quality and water abundance in the United States over time.

But in 1948, the nation led the way by passing the Federal Water Pollution Control Act (FWPCA) - the first major U.S. law to address water pollution. It was with the landmark amendments of FWPCA in 1972, known as the [Clean Water Act](#), that the U.S. first set standards around water pollution and empowered government agencies to enforce them, inspiring similar legislation globally.

In the decades since, federal programs and initiatives have also been established to protect water resources in the United States. These strategies include linking incentives to conservation practices that improve water quality and training and educating agricultural workers on best practices that protect water resources.



KEY EVENTS

1948

The nation passes its first water pollution policy with the Federal Water Pollution Control Act.

1972

The landmark Clean Water Act of 1972 amends earlier law and marks the first time the U.S. sets pollution standards for water and regulates this pollution through the Environmental Protection Agency (EPA).

1985

The 1985 Farm Bill launches the first ongoing federal incentive programs for farmers using conservation practices, including water conservation.

1987

The Water Quality Act amends the CWA to establish the Section 319 Nonpoint Source Management Program, the first federal program to supply grants to states for programming related to nonpoint source pollution, including from farming.



KEY U.S. WATER POLICIES AND LAWS

THESE ARE AMONG THE MAJOR U.S. LAWS AND POLICIES THAT REGULATE WATER QUALITY AND QUANTITY:

1948

FEDERAL WATER POLLUTION CONTROL ACT (FWPCA) is the first federal policy to address water pollution and is significant for establishing federal technical services on water pollution and a grant program to fund water pollution activities. While it signaled federal concern for water pollution, the FWPCA ultimately lacked clear federal mandates on water pollution and enforcement mechanisms.

1972

CLEAN WATER ACT (CWA) is the cornerstone of water quality protection in the U.S. It gives the Environmental Protection Agency (EPA) the authority to oversee water pollution control and to set pollution standards for point source pollution (meaning directly from a pipe from, for example, industry or municipal wastewater systems) and it established a permit system to regulate this pollution.

OCEAN DUMPING ACT (ODA) is the first federal U.S. law to regulate the disposal or dumping of materials into marine waters within U.S. jurisdiction and a permitting system for other types of waste disposal, like dredged sediment and fish waste. The ODA has been amended several times to be more stringent and to allow states to set higher standards, with the 1988 amendment banning industrial and municipal wastewater dumping altogether.

1974

SAFE DRINKING WATER ACT (SDWA) sets standards for the quality of drinking water and regulates the testing, treatment, and distribution of public drinking water supplies. It also empowers the Environmental Protection Agency (EPA) to oversee these regulations.

1987

WATER QUALITY ACT amended the CWA to establish the Section 319 Nonpoint Source Management Program, the first federal program to assist states in dealing specifically with nonpoint source pollution, including sediment, nutrients, bacteria, and chemical runoff that originates on ranches and farms. Section 319 supplies grant money to states, territories, and tribes to support nonpoint source pollution clean-up projects and to track and identify water bodies with water quality issues.

CURRENT STATUS OF WATER PROGRAMS AND INITIATIVES



WATER QUALITY AND POLLUTION PREVENTION FUNDING AND ASSISTANCE

- The U.S. Environmental Protection Agency's (EPA) [Clean Water State Revolving Fund \(CWSRF\)](#) program is the largest public source of water quality financing in the country.

As of 2022, the CWSRF has funded over \$700 million in agricultural best management practices (BMPs), such as feedlot runoff control, manure management, conservation tillage, and erosion control. Many of these projects are eligible for assistance because they implement state Clean Water Act (CWA) Section 319 nonpoint source (NPS) management programs.

- The 2012 [National Water Quality Initiative](#) (a partnership between the National Resources Conservation Service (NRCS), the EPA, and the state water quality agencies) is specifically aimed at reducing runoff of agriculture-related nutrients, sediment, and pathogens to improve water quality in high-priority watersheds in each state.

Funding for these efforts comes from the NRCS Environmental Quality Incentives Program (EQIP), the Clean Water Act Section 319 Program, and other resources.

- Administered by the NRCS, the [Conservation Stewardship Program \(CSP\)](#) is the largest federal conservation program by area enrolled and provides technical and financial assistance to farmers, ranchers, and forest landowners for advanced conservation activities, including those that pertain to water quality, pollution prevention, and wetlands protection.

For example, CSP enhancements include planting forage crops to reduce nutrient runoff from agricultural land, extending filter strips around waterways to capture runoff and sedimentation, encouraging more efficient irrigation systems, and using precision pesticide applications and Integrated Pest Management (IPM) to reduce chemical runoff from agriculture.

- Administered by the NRCS, the [Environmental Quality Incentives Program \(EQIP\)](#) is the largest conservation program for working agricultural land, providing technical and financial assistance to farmers and forest landowners to address specific conservation concerns and projects.

EQIP conservation practices include riparian buffers to protect waterways from runoff, conservation tillage that prevents erosion and sedimentation, and manure storage management to prevent pathogens from entering waterways, among other initiatives. Reducing nonpoint source water pollution in watersheds is one of the national priorities set by the NRCS under EQIP.



CONSERVATION PRACTICES AND RETIRING AND RESTORING FARMLAND

- The [Conservation Reserve Program \(CRP\)](#), a large federal conservation program for farmers and ranchers, is dedicated to removing environmentally sensitive land from agricultural use and converting it to conservation activities. CRP not only improves water quality by preventing the runoff, sedimentation, and erosion linked to farming and ranching, but the program also encourages wetland restoration, riparian buffers, and vegetative buffers, among other practices, which reduce erosion and act as filters to protect waterways from pollution.
- The [Regional Conservation Partnership Program \(RCP\)](#) takes a partner-led approach to conservation. Administered by the NRCS, it funds innovative solutions to conserve, protect, restore, and promote the sustainable use of natural resources – including water – on agricultural land. In 2023, [more than a quarter of the projects](#) that secured RCP funding (22 out of 81) focused on water quantity and conservation and received over \$338 million of investment.
- Created in 2014, the [Agricultural Conservation Easement Program](#) supports water quality improvement. Also administered by the NRCS, it helps landowners, land trusts, and other entities protect, restore, and enhance wetlands, grasslands, and working farms and ranches through two types of conservation easements, notably:
 - [Wetland Reserve Easements](#), which preserve, restore, and improve wetlands that have been previously degraded due to agricultural uses. These easements help boost water quality by filtering sediments and chemicals, reducing flooding, and recharging groundwater, among other benefits.



RESEARCH, EDUCATION, AND TECHNICAL ASSISTANCE

- The [Water and Agriculture Information Center](#) (WAIC), established in 1990, supports the U.S. Department of Agriculture (USDA) in mitigating the impacts of agricultural chemicals and waste caused by farming and ranching. WAIC supports scientists, policymakers, economists, engineers, and growers by curating scientific research and tools on agriculture and water quality.
- The [National Water and Climate Center](#), part of the USDA **National Resources Conservation Service** (NRCS), administers programs that survey and track precipitation and snowmelt across the United States. It creates data through weekly water and climate reports as well as producing and disseminating water supply forecasts, among other initiatives.
- The NRCS and the **Environmental Protection Agency** (EPA) provide technical support and education on water quality and conservation. Specifically, the EPA and NRCS have technical guidance on nutrient and sediment management, controlled grazing, Integrated Pest Management (IPM), and efficient irrigation water practices.
- The [National Institute of Food and Agriculture \(NIFA\)](#), part of the USDA, partners with the nation's 100-plus land-grant universities to offer non-formal education to farmers and rural communities via its Cooperative Extension services. It offers education on technical assistance, emerging science and farming practices, as well as community-building through, its national 4-H youth program.



CLIMATE CHANGE AND U.S. SUSTAINABILITY POLICY

Climate change is one of the gravest threats to U.S. security, sustainability, and our food system.

Already, increasing droughts, extreme weather, and changing seasons are impacting growers' ability to produce food and other products.

The U.S. has long debated a comprehensive national policy on climate change and, in the meantime, the country has moved ahead with renewable energy tax credits, fuel emission and efficiency standards, research and development, and massive investments in climate-smart agriculture under the landmark [Inflation Reduction Act](#) of 2022. What's more, increasingly, U.S. conservation policy is incentivizing farmers' important role in reducing emissions and storing carbon in the soil, forests, and waterways.

Under the National Resources Conservation Service (NRCS), the U.S. Department of Agriculture (USDA) is focusing on "climate-smart" mitigation strategies that include soil and forestry carbon sequestration, managing nitrogen to reduce nitrous oxide, reducing methane emissions from manure, building carbon stocks in our forests and wildlife areas, and improving the energy efficiency of agricultural infrastructure, among other strategies.



KEY EVENTS

1992

The U.S. Senate ratifies the United Nations Framework Convention on Climate Change (UNFCCC), acknowledging the importance of addressing climate change and establishing a framework for international climate negotiations.

Renewable energy production tax credits are included in the 1992 Energy Policy Act, aiding in the rapid expansion of the wind energy industry. Solar tax credits were added in 2005.

2007

The U.S. Congress mandates emissions reporting from large sources for the first time, as part of the Consolidated Appropriations Act, establishing the Greenhouse Gas Reporting Program (GHGRP) database.

2016

The U. S. joins the landmark Paris Agreement, an international accord aimed at limiting global warming to well below two degrees Celsius above pre-industrial levels.

2020

Congress passes an omnibus package that includes research and development for clean energy technologies, clean energy tax incentives, and the phasing out of hydrofluorocarbons (HFCs), a potent greenhouse gas.

2022

Congress passes the Inflation Reduction Act, the largest climate bill in U.S. history, with nearly \$20 billion in funding for NRCS's conservation programs, which address climate change.

KEY CLIMATE POLICIES AND PROGRAMS RELATED TO AGRICULTURE



THE FARM BILL

Renewed approximately every five years since 1985, the Farm Bill funds national agricultural policy and priorities, including climate mitigation strategies such as:

- The 1990 Farm Bill included the Global Climate Change Prevention Act, which first established a program within the USDA to coordinate climate-related issues.
- The 2008 Farm Bill expanded support for renewable energy, including biofuels made from agricultural products. It also promoted carbon sequestration through reforestation, afforestation, and conservation easements.
- The 2018 Farm Bill expanded the federal crop insurance program to allow greater use of cover crops, which increases carbon sequestration, as well as continuing funding for the nation's premier conservation programs, CRP, CSP, and EQIP, which include numerous climate-smart provisions.
- President Joe Biden signs the [2022 Tackling the Climate Crisis at Home and Abroad executive order](#) directing federal agencies to coordinate a government wide approach to combating the climate crisis. The U.S. Secretary of Agriculture was tasked with delivering a report with recommendations for a climate-smart agriculture and forestry (CSAF) strategy, which is in development. Likewise, the NRCS published its own [Climate Change Adaptation Plan](#) in July 2022.
- **The 2022 Inflation Reduction Act** provides unprecedented funding to support agricultural producers investing in renewable energy and energy efficiency. It makes almost \$20 million available for climate-smart agriculture through several existing conservation programs implemented by USDA's Natural Resources Conservation Service (NRCS), namely the Conservation Stewardship Program (CSP) and Agricultural Conservation Easement Program (ACEP). The Act also dedicated \$300 million to quantifying and tracking the emissions savings and sequestration benefits of the USDA's climate-smart activities.

CLIMATE-SMART COMMODITIES FUNDING AND ASSISTANCE

To help farmers, ranchers, and forest landowners mitigate the effects of a changing climate, the U.S. Department of Agriculture (USDA) offers funding to accelerate the development of climate-smart commodities - a term it uses to describe an agricultural commodity produced using practices that reduce greenhouse gas emissions or sequester carbon.



- [Partnerships for Climate-Smart Commodities](#), launched in 2022, is a USDA project-based initiative funded under the Inflation Reduction Act that aims to develop markets, pilot quantification methods, and provide technical and financial assistance for America's climate-smart commodities. The USDA is investing more than \$3.1 billion for 141 projects through this effort and all the projects require "meaningful involvement" of small and underserved producers.
- In April 2023, the USDA announced the **Partnerships for Climate-Smart Commodities Learning Network** aimed at facilitating the exchange of information and lessons learned from Partnerships for Climate-Smart Commodities projects.

CARBON MITIGATION AND SEQUESTRATION FUNDING AND ASSISTANCE

The USDA's Natural Resources Conservation Service (NRCS) offers various conservation programs aimed at promoting sustainable agricultural and forestry practices that can help sequester carbon and reduce greenhouse gas emissions, including but not limited to:



- **The Conservation Reserve Program (CRP)** provides rental payments and cost-share assistance for agricultural producers to remove environmentally sensitive land from agricultural production and to convert it to conservation practices, including practices like reforestation and wetland and grassland restoration that store carbon. CRP was updated in 2021 to include a more substantial funding boost for climate-smart practices.
- The [Environmental Quality Incentives Program \(EQIP\)](#) provides financial and one-on-one technical assistance to implement conservation practices to meet specific conservation and production goals. These can include: climate-smart conservation practices, such as cover cropping and reduced tillage, which stores carbon in the soil and reduces nitrogen oxide emissions from fertilizer usage; reforestation, which stores carbon in trees; and support for energy efficiency programs on farms, among other initiatives.
- Administered by the NRCS, the [Conservation Stewardship Program \(CSP\)](#) provides technical financial assistance in five-year contracts to farmers, ranchers, and forest landowners for conservation activities, including those that encourage carbon sequestration and emission reduction activities.
- Launched in 2021, the [Agriculture Innovation Mission for Climate \(AIM for Climate\)](#) is an initiative led by the United States and the United Arab Emirates that unites partners toward substantially increasing investments in climate-smart agriculture innovations over five years.
- The [Conservation Innovation Grants program \(CIG\)](#) provides funding to grantees to develop tools, technologies, and strategies for next-generation conservation efforts on working private lands. In 2023, the federal government put an additional \$25 million towards [CIG's On Farm Trials](#) to develop methane-reduction strategies, including by changing the diet and feed management of ruminants, as part of its climate-smart strategies.





EDUCATION, RESEARCH, AND TECHNICAL ASSISTANCE

- USDA promotes what it calls **“climate-smart” agricultural strategies** through content on its website, programming, and free technical assistance to agricultural producers. This includes information on soil carbon sequestration strategies, energy efficiency, nutrient management, wildlife and grassland restoration, cover cropping, reduced tillage, and more.
- In line with its [Science and Research Strategy](#) and aim to drive climate-smart solutions, USDA and other federal agencies conduct research to better quantify and understand the impacts of climate change on agriculture, fisheries, and forestry. This research informs policy decisions and provides valuable data for stakeholders in these industries.
- Established in 2014, the USDA’s [Climate Hubs](#), which operate in ten regions across the country, conduct research on regional climate risks and variability. They also provide information, tools including forecasting and data, and technical support to farmers, ranchers, and forest landowners in adapting to climate change, including drought, extreme weather, and changes in growing seasons. Building on its national success, the USDA launched an [International Climate Hub](#) in May 2023 to share research, tools, collaborative efforts, and best practices on a global scale to improve the world’s ability to adapt to climate change.
- Managed by a public-private partnership, the [COMET-Farm Tool](#) is a digital carbon and greenhouse gas accounting system that allows farmers, ranchers, and forest managers to quantify their operation’s carbon sequestration and greenhouse gas emission reduction potentials based on multiple management scenarios. Similarly, the COMET-Planner Tool allows agriculturalists to see the impact of various conservation practices implemented through the USDA’s Natural Resources Conservation Service (NRCS). A global version of this tool is included in the International Climate Hub.
- The [Coalition on Sustainable Productivity Growth for Food Security and Resource Conservation \(The SPG Coalition\)](#), launched by the USDA in 2021 at the UN Food Systems Summit, accelerates the transition to more sustainable food systems through productivity growth, including climate-smart agricultural practices. Members, which include countries, farmer and producer groups, NGOs, research institutions, and others, commit to sharing education and information on best practices, innovations, and cutting-edge technology.

BIODIVERSITY AND ECOSYSTEMS AND U.S. SUSTAINABILITY POLICY

Biological diversity and ecosystem management encapsulate the big picture of sustainability.

It requires keeping species, their habitats, and their relationships and connections to one another intact and thriving. Biodiversity in turn supports our food system – some 100 U.S. crops, for example, depend on pollinators, such as bees, to reproduce.

While the term “biodiversity” came into use more recently, the U.S. federal government has long practiced ecosystem protection and fostered wildlife, dating back at least to the founding of Yellowstone National Park in 1872.

Today, an area the [size of California](#) is protected as wilderness in the United States. As of 2022, there are [70 million acres](#) of farmland and forests enrolled in the nation’s largest conservation program, the Conservation Stewardship Program (CSP).

Farmers, fishermen, and forest managers are increasingly doing their part to promote biodiversity by reducing man-made chemicals and fertilizers, sustainably managing fish stocks and forests, preventing pollution of our waterways, and even increasing wetlands and pollinator ecosystems.

KEY EVENTS

1871

President Ulysses S. Grant creates the United States Commission of Fish and Fisheries, the first federal agency focused on natural resource conservation.

1872

The first national park was created – Yellowstone National Park - launching a national tradition of conservation of protected lands and wildlife and their habitats.

1905

The U.S. Forest Service was formed to protect the nation's forests and watersheds.

1964

The U.S. pledges to set aside approximately 9 million acres (about 3.6 million hectares) of wilderness for future generations with the passage of the Wilderness Act.

1966

The Endangered Species Preservation Act (ESPA) passes, authorizing the identification of species in threat of extinction. The more comprehensive Endangered Species Act (ESA) of 1973 significantly expands the federal government's role in protecting those species.

1972

The Federal Environmental Pesticide Control Act (FEPCA) amends the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), broadening national pesticide enforcement to include environmental and health issues. The same year, the EPA banned several highly hazardous and persistent pesticides, including DDT, proven harmful to wildlife and humans.

1976

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) passes, setting standards for sustainable fishery management, the restoration of overfished areas, and the protection of fish habitats.

1985

The Food Security Act (aka the first Farm Bill) establishes the Conservation Reserve Program (CRP), which takes sensitive agricultural land out of production for conservation, and the Wetlands Reserve Program, which restores and protects wetlands.

2021

Under its America the Beautiful Initiative, the U.S. puts significant financial investment towards a national goal of conserving at least 30 percent of U.S. lands and waters by 2030.

2022

The Biden-Harris Administration launches the Opportunities to Accelerate Nature-Based Solutions roadmap, outlining federal policy for funding, research, and training on nature-based solutions to climate change and other sustainability challenges.

KEY U.S. BIODIVERSITY AND ECOSYSTEM LAWS AND POLICIES

WILDLIFE

- Under the **Endangered Species Preservation Act (ESPA)** of 1966, species under threat of extinction were identified and first put on a federally managed list. In 1973, the [Endangered Species Act \(ESA\)](#) expanded the law, calling for the protection and rehabilitation of threatened species, including the protection of their habitats. The Marine Mammal Protection Act (MMPA) of 1972 likewise banned the hunting and killing of whales, seals, and dolphins in U.S. waters.
- The **National Wildlife Refuge System (NWRS)**, which includes more than 560 marine and land-based wildlife refuges dedicated to protecting wildlife and their habitats, was formalized with the passage of the [National Wildlife Refuge System Administration Act of 1966](#). This legislation provided a comprehensive framework for the management and protection of the refuges under the U.S. Fish and Wildlife Service.
- With the passage of the **Federal Environmental Pesticide Control Act (FEPCA)** of 1972, the Environmental Protection Agency (EPA) was granted authority to regulate and ban hazardous pesticides, including DDT, which was found particularly harmful to wildlife and ecosystems.

FORESTS

- The [Forest and Rangeland Renewable Resources Planning Act \(RPA\)](#) of 1974 requires the U.S. Forest Service to monitor the nation's forests and develop long-term plans for resource management, including conservation and sustainability goals. Similarly, the [National Forest Management Act \(NFMA\)](#) of 1976 first developed the framework for sustainably managing national forests on federal lands.

FARMLAND

- Originally established by the **1985 Farm Bill**, the Conservation Reserve Program (CRP) is created to provide financial incentives to growers to remove environmentally sensitive land from agricultural production and to plant species that will improve environmental health and quality, including pollinator and wildlife habitat.

MULTI-SECTOR POLICIES

- The Biden-Harris Administration's 2022 [Nature-Based Solutions Roadmap](#) outlines federal policy for nature-based solutions, including quantifying nature in national balance sheets, updating policies on flood-plan management to include nature-based solutions, and developing solar projects that have pollinator habitat benefits, among many other initiatives.
- The [Bipartisan Infrastructure Law](#) of 2023 sets aside \$20 million to fund 30 research studies to develop new technologies and data to restore degraded forests, grasslands, and watersheds via the USDA's Forest Service.

U.S. BIODIVERSITY AND ECOSYSTEM PROGRAMS AND STRATEGIES



INCENTIVES AND ASSISTANCE FOR AGRICULTURAL PRODUCERS

As the stewards of over half the nation's land, agricultural producers play a key role in biodiversity and ecosystem health. Through the USDA NRCS's conservation programs EQIP, CSP, and CSR, growers are protecting biodiversity through practices such as cover cropping, which provides a temporary habitat and food source for species, vegetated buffers along rivers and streams, which create habitats, and reduced and targeted pesticide use, which protects beneficial insects and non-target organisms and marine ecosystems impacted by agricultural run-off.



SPECIES AND HABITAT PROTECTION

The United States has numerous federal policies and agencies in place that protect species and their habitats and outline the sustainable management of our lands and waterways, protecting ecosystems as a result.

Some of the first policies to enshrine species protection into regulation include the Endangered Species Act (1966), the [Marine Mammal Protection Act](#) (1972), the [Magnuson-Stevens Fishery Conservation and Management Act](#) (1976), and the Forest and [Rangeland Renewable Resources Planning Act \(RPA\)](#) of 1974. The extensive National Parks systems protect valuable habitats. Likewise, federal policy protects wetlands, forests, and wilderness, among other protected areas that foster biodiversity.



The nation's premier wildlife protection program is the **National Wildlife Refuge System (NWRS)**, which includes more than 560 wildlife refuges such as coastal areas, forests, and wetlands dedicated to protecting wildlife and their habitats. The NWRS fosters biodiversity by creating refuges that serve as key breeding and migratory grounds and endangered special protection areas and as a basis for scientific research.

PROTECTION OF POLLINATORS

Federal policies protect pollinators such as bees, as they play a key role in crop production and ecosystem functioning. [The Pollinator Protection Initiative](#) under the EPA aims to better address the risk to pollinators posed by pesticides via better research, labeling, and registration; the Endangered Species Act (ESA) includes protections for some pollinator species; and the USDA's CRP and EQIP programs for growers provide incentives for farmers to establish pollinator-friendly habitats.

U.S. BIODIVERSITY AND ECOSYSTEM PROGRAMS AND STRATEGIES



REDUCED AND TARGETED PESTICIDE USAGE

The U.S. has moved towards the more responsible use of pesticides to protect human health, as well as wildlife and ecosystems. Namely, the passage of the FEPCA in 1972 empowered the EPA to study, identify, regulate, and ban pesticides that harm wildlife and ecosystems.

The Organic Foods Production Act mandated the development of national standards for organic products made without any man-made pesticides, which is now a huge market. The USDA also routinely works with growers and links incentives to the targeted and reduced use of pesticides.

RESEARCH, EDUCATION, AND TECHNICAL ASSISTANCE

The U.S. government focuses on increasing biodiversity on agricultural and productive lands via research, education, and technical assistance, with a focus on soil health, pollinator protection, and reduced pesticide usage. Here is an overview of some of these initiatives:

- The USDA NRCS operates 25 [Plant Materials Centers \(PMCs\)](#) across the United States to research, identify, develop, and provide growers with plants identified as “conservation plants.”
- The PMCs have played a vital role in restoring and enhancing biodiversity on national farmland for 80 years, including releasing wildflowers and legumes that create habitats for butterflies, bees, hummingbirds, and other important pollinators.
- The USDA maintains the [U.S. National Plant Germplasm System \(NPGS\)](#), which is a bank for agriculturally important plants. The NPGS serves to safeguard the genetic diversity in crops, which is in turn essential not just for agriculture but biodiversity more generally.
- The [Sustainable Agriculture Research and Education \(SARE\)](#) program, supported by the USDA, funds research and education projects that support sustainable agriculture practices, including those that enhance biodiversity. SARE, for example, focuses on educational grants that enable organic production, which can enhance biodiversity by eliminating pesticides and increasing crop rotation.
- The USDA's [National Resources Inventory \(NRI\)](#) monitors and releases annual information on the status and condition of land, water, and soil resources on non-federal land in 49 states. Its aim in doing so is to understand the effectiveness of conservation techniques and develop better ways to enhance ecosystems and biodiversity across the United States.

