In the 1930s, great swathes of once-bountiful American countryside turned to wasteland, as if to mirror the economic ruin wrought by the Great Depression. Indeed, the ethic of increasing production at all costs had wrung the life from much of America’s farmland, just as it had from industrial workers.

Enormous clouds of dust rose from areas of the Great Plains desiccated by drought and heedlessly intensive cropping. The airborne dirt choked livestock and pummeled crops in almost two dozen states, sometimes reaching as far as East Coast cities, where it blackened the sky like a plague of locusts. Constant cultivation and soil erosion left farmlands from the South to the Midwest drained of essential nutrients. Across the nation, lumber companies harvested trees but did not replenish the forests. Denuded land contributed to flooding from rivers that overflowed their banks and drowned everything in their path.

Franklin D. Roosevelt, born and raised on a verdant eight-hundred-acre estate he loved all his life, made it a priority to restore and conserve the natural resources that had been the wellspring of American prosperity for generations.

As governor of New York, he sent relief workers to reseed forests and commissioned a landmark review of reforestation programs. He asked his agricultural advisors to investigate land-conserving—“sustainable,” in today’s parlance—farming practices.

As president, FDR gave conservation new prominence as a national issue. He approached the crisis in farming, ranching, and timber as both an economic and an environmental problem. He chose bold, effective managers to administer conservation programs, introduce more environmentally sustainable farming practices, and help farmers rebound from the ecological disaster known as the Dust Bowl. He fought for funds to construct dams powerful enough to control the strongest river currents and to put the unemployed to work restoring forests and desolate farmland. Rather than permit private interests to carve up America’s landscapes and dispose of them at their will,

FDR extended over many of these lands the permanent protection of the federal government, creating publicly owned national forests, wildlife refuges, and parks. No president since Theodore Roosevelt had done so much to protect the natural world and its web of life.

In drawing attention to and addressing ecological problems, FDR helped the nation realize that although it had abundant natural resources, they were not inexhaustible—and that the federal government had a moral and economic responsibility to protect endangered lands for all Americans, present and future.
Franklin D. Roosevelt, Trees, and the Shelterbelt Project

Franklin D. Roosevelt had been fascinated by trees since he first roamed the Roosevelt family estate at Hyde Park, New York, as a young boy. In adulthood he met with foresters to explore new ways to care for the tree-covered property and to learn how to grow and market different types of trees. FDR understood that trees could provide shelter against rain, snow, and wind, and prevent soil erosion. In fact, he so enjoyed working with trees that he often described himself as a “tree farmer” when public documents required him to note his occupation.

When the black blizzards of the Dust Bowl swept through the southern Great Plains, they hit with a force that stalled car engines, broke windows, and choked cattle. Nothing slowed the winds, which deposited millions of pounds of topsoil in distant locations. FDR thought trees could act as a buffer against wind and keep the soil from being so readily sucked into gusts. On July 1, 1934, after an extensive Forest Service study validated his idea and suggested where the trees should be planted to do the most good, FDR signed an executive order creating the Shelterbelt Project.

From 1934 to 1942, farmers, along with men on federal work relief through the Works Progress Administration and Civilian Conservation Corps, built a hundred-mile-wide green and growing windbreak—a nineteen-thousand-square-foot tree barrier that stretched from Bismarck, North Dakota, to Amarillo, Texas. The labor-intensive project also provided the country’s unemployed with desperately needed work-relief jobs.

It was a huge job and rough work. Drought, heat, dust storms, and infertile soil constantly challenged the planters. But by 1942, eight in ten of the trees they’d planted were still alive.
Franklin D. Roosevelt deeply appreciated the nation’s National Park System, and he fought to protect and expand it so that future Americans would always enjoy access to the restorative majesty of their landscapes. He displayed, advisor Rexford Tugwell noted, “a proprietary interest in the nation’s estate.”

One of the first things FDR did as president was to create the Civilian Conservation Corps (CCC), a New Deal work-relief program that sent jobless young men from the cities into the forests and parks to work on conservation projects. They cleared brush and dead vegetation, planted trees, built firebreaks, fought forest fires, and improved campsites. They built shelters for visitors and cabins for park and forest rangers and worked alongside other relief workers hired through the New Deal’s Works Progress Administration to build the roads, bridges, and hiking trails visitors used to explore the parks.

Not content to merely restore existing natural treasures, FDR enlarged American parkland by placing dozens of historic sites and Civil War and Revolutionary War battlefields under the care of the National Park Service. He authorized Secretary of the Interior Harold Ickes to create new national parks, including Isle Royal National Park adjacent to Lake Superior in northern Michigan, Big Bend National Park in the Rio Grande Valley in Texas, the Everglades National Park in the Florida marshes, and Kings Canyon National Park in the California wilderness. He extended protected status to Cape Hatteras, off the coast of North Carolina, by designating it the nation’s first national seashore, and he named as federally protected national monuments the natural treasures at Joshua Tree (Southern California), the Dry Tortugas (seven islands off the Florida coast), and Capitol Reef (Utah).

When FDR and Ickes succeeded in designating the Channel Islands (off the coast of Santa Barbara, California) a national monument, they not only preserved the land but also protected more than a hundred native species, including the California brown pelican and the nation’s largest seal and sea lion breeding colony.

In 1937 FDR and Ickes launched an intense campaign to designate Mount Olympus National Monument as a national park, which would afford this ecologically diverse Pacific Northwest landscape greater protection against commercial uses. For thirty years, a bitter dispute between the Park Service and the Forest Service had blocked all congressional attempts to change its designation. Now loggers had invaded the last sections of its temperate rainforest, and the Forest Service argued that halting their work would depress an already weak economy. FDR traveled to the Olympic Peninsula in northwest Washington State to investigate. When he saw the scarred forest, he turned to his guide and proclaimed, “I hope the son-of-a-bitch who is responsible for this is roasting in hell.” In June 1938, Congress, with FDR’s strong support, finally declared the monument a national park and authorized FDR to expand its boundaries. He promptly protected 187,000 acres of its two most vulnerable valleys from loggers’ axes.

Two years later, FDR signed legislation creating Kings Canyon National Park in California’s Sierra Nevada mountains, soon to be immortalized by the master photographer Ansel Adams, whose work captivated the president.

By 1940 FDR had added millions of acres to the National Park System; created wildlife refuges to protect bears, birds, elk, and cougars; and revitalized over a hundred national historic sites.

The public appreciated FDR’s efforts. During the ‘30s, visitors to national parks increased fivefold. Later Congresses recognized FDR’s foresight and followed his lead, increasing federal protection for Joshua Tree, the Dry Tortugas, Capitol Reef, and the Channel Islands by making them national parks.
As a boy, Franklin D. Roosevelt was a fisherman, hunter, and hiker. He took a particular interest in ornithology, amassing a collection of stuffed birds (which he shot himself) representing every species inhabiting the Roosevelt family's Hyde Park, New York, estate. When he rose to the nation's highest office, FDR showed great concern for the threats wildlife faced in overharvesting and rampant destruction of their habitats. This was a progressive stance in a time when many saw America's wild creatures as either of little interest or endlessly resilient. In fact, across much of the Old World, little wilderness remained, and FDR was intent that America, so much associated with a depthless wild, would not suffer the same fate.

To bring together the scattered sportsman, conservationist, and government groups that cared about wildlife, in 1936 FDR called the first North American Wildlife Conference, asking conferees to develop practical ways to restore and conserve "the vanishing wildlife of a continent." "It has long been my feeling," he wrote, "that there has been a lack of full and complete realization on the part of the public of our wildlife plight, or of the urgency of it." The conference became an annual event and spawned new wildlife organizations around the country, joined in the National Wildlife Federation. FDR had spearheaded the modern wildlife-protection movement.

Sportsmen-funded conservation
This gathering also led to the passage in 1937 of a law that would prove one of the most critical in the nation's history for the protection of wild animals. The Pittman-Robertson Federal Aid to Wildlife Act earmarked an 11 percent tax on sporting firearms and ammunition for long-term state wildlife conservation projects. It provided the first stable funding for this work and remains a key resource for wildlife conservation today.

The Pittman-Robertson Act built on another highly successful federal initiative popularly known as the duck stamp, the brainchild of J. N. "Ding" Darling, an Iowa cartoonist and environmentalist whom FDR had named chief of the Bureau of Biological Survey (soon to be the U.S. Fish and Wildlife Service) despite Darling's critical treatment of the president in his political cartoons. A hunter of ducks and other waterfowl, Darling, like many sportsmen, was distressed by a sharp decline in bird populations, the result of wetlands dredging, drought, and excessive commercial, or "market," hunting. The Migratory Bird Hunting Stamp Act of 1934 required waterfowl hunters to buy and carry a federally issued "duck stamp" each season, with proceeds going to the U.S. Fish and Wildlife Service and earmarked for the purchase of wetlands and other important habitats along the waterbirds' migration routes through North America. At FDR's request, Darling designed the first duck stamp. The annual stamps became a popular and in many cases collectible form of wildlife art.

Refuge for declining species
On more than one occasion, when a particular species clung to life in some part of the country, FDR took steps to protect its habitat using the National Wildlife Refuge System inaugurated by his distant cousin Theodore Roosevelt in 1903. In 1936 FDR designated the vast Desert National Wildlife Refuge north of Las Vegas to protect habitat for the desert
bighorn sheep that once inhabited sagebrush country by the millions; later he designated two additional bighorn refuges in southwestern Arizona. To protect the elegant pronghorn antelope, hunted to near extinction by the 1930s but once as numerous as bison in North America, FDR created the Hart Mountain National Antelope Refuge in 1937. The next year, when perhaps fifteen whooping cranes remained on a patch of land on the Texas Gulf Coast, he designated more than forty-seven thousand acres as the Aransas National Wildlife Refuge to protect the birds.

Around the same time, the president, at the urging of Bureau of Biological Survey head Darling, transferred thousands of acres of spent farmland along the Patuxent River in Maryland to the Bureau of Biological Survey, creating both a wildlife refuge and the first national “experiment station” devoted to wildlife research. The Patuxent Wildlife Research Center, today a key international locus of research on wildlife, has produced knowledge critical to the survival of wild creatures—including information on the insidious effects on birds and other animals of the once widely used pesticide DDT (research popularized in Rachel Carson’s seminal environmentalist work *Silent Spring*), and knowledge about methods for raising and reintroducing to the wild endangered species, such as bald eagles.

**The 10th Mountain Division and the trumpeter swan**

One of FDR’s most emphatic actions to safeguard wild animals came in late 1941. With the nation gearing up for a likely war against Adolf Hitler, the army had chosen a site near Henrys Lake, Idaho, a mountainous area on the western edge of Yellowstone Park, as the ideal spot to train its 10th Mountain Division for fighting in wintry, rugged conditions. But not far to the west, FDR had recently designated the Red Rock Lakes Migratory Waterfowl Refuge to protect the rare trumpeter swan. “Apparently the Army is proceeding to develop a bombing range in a location that will seriously defeat the purpose of a Wildlife Refuge and perhaps result in the extermination of the rare trumpeter swan which you and I have been at such pains to preserve,” an indignant Secretary of the Interior Harold Ickes wrote FDR.

Notwithstanding his dedication to military preparedness, FDR shot off a memo to his secretary of war: the site “must immediately be struck from the Army planning list for any purposes,” the president wrote. “The verdict is for the Trumpeter Swan and against the Army. The Army must find a different nesting place!” The 10th Mountain Division trained elsewhere and went on to perform admirably against the Germans in Italy’s Apennine mountains.
II. Hope, Recovery, Reform: The Great Depression and FDR’s New Deal

5. Franklin D. Roosevelt, Conservationist: An Early Initiative in Sustainability

Soil Conservation

When the rich top layers of loam dry up and blow off, the land becomes infertile, depleted of nutrients crops need to grow. As Franklin D. Roosevelt entered the White House in 1933, this was the situation in more than two-thirds of the nation’s farmland. The cycle of soil infertility, erosion, and dust storms that troubled so much of the country was due in no small part to the way Americans farmed the land.

In the first months of FDR’s presidency, the Department of the Interior launched the Soil Conservation Service (SCS) to combat these soil-depleting farming practices. The SCS persuaded fifty thousand farmers to let some of their land rest, plant more drought-resistant crops, build terraces, and plow across rather than up slopes.

In 1936 the Soil Conservation and Domestic Allotment Act required the federal government to develop long-term strategies to combat soil erosion. As a result, the SCS established twenty-three regional research centers to examine the scope and cause of soil erosion and to recommend methods for addressing it. These centers encouraged farmers in the drought-stricken Great Plains to switch from growing cash crops, such as wheat, cotton, and corn (crops that take nutrients out of the soil), to growing legumes (which return nutrients to the soil), and to plant grasses to hold the dirt in place. This would also have the effect of reducing production of major farm commodities—a New Deal policy aimed at stemming the drop in prices that came with oversupply. When farmers balked and said they did not have the money to adopt these new practices, the SCS offered them stipends and supplied the advisors and equipment farmers needed to implement conservation efforts—if the farmers agreed to follow the program for five years.

By the late 1930s, these policies had helped many farmers substantially reduce erosion and produce a profitable crop. Those who refused to adopt new practices still struggled, though, and soil erosion continued to be a problem until 1941, when rains ended the historic drought.
The Dust Bowl

Swirling, fierce, dirt-laden windstorms blanketed the nation throughout the 1930s. Walls of dust seven thousand feet high traveled across the continent at a hundred miles an hour, killing livestock, destroying crops, damaging homes, ruining cars and farm equipment, spreading the lung ailment dubbed “dust pneumonia,” and dumping tons of dirt lifted from midwestern farmlands onto the streets of New York City, Boston, and Washington, DC. By 1936 farm losses reached $25 million a day, and two million farmers needed a New Deal relief check to feed their families. It was, Assistant Secretary of Agriculture Rexford Tugwell noted, “a picture of complete destruction.”

This environmental devastation, coupled with the economic tailspin of the Great Depression, drove hundreds of thousands from their homes in Oklahoma, Texas, Arkansas, and Missouri, creating a westward stream of tattered, penniless refugee families. They made their way from camp to camp in search of work and some new place to settle. Many landed in California.

The storms first struck the Texas Panhandle in January 1932. A year of very little rain, intense heat, and constant harvesting had left the soil scorched and cracked. By spring, strong dry winds sucked the loose dirt into the air—creating a dark, grainy, moving cloud of dust so thick that train engineers drove past blotted-out stations and people crammed rags under their doors and hung sheets over their windows in a futile attempt to keep the dust out of their houses and off the food on their plates.

In 1934 intense heat (temperatures reached 118 degrees in Nebraska) and continued drought lured the storms west to Montana and as far north as the Dakotas. On May 9, in central Kansas, vacuum-like winds pulled 350 million tons of dirt into the air. By afternoon, dirt rained on Dubuque, Iowa, and Madison, Wisconsin. By nightfall, twelve million pounds of dirt hammered Chicago. The next day the storm, traveling at one hundred miles per hour, reached the East Coast.
Cattle, blinded by the storms, ran in circles until they collapsed and died from inhaling the dust. Stunted corn crops were ripped from the ground. Cotton crops were buried under waist-high, shifting mounds of dust. People covered their faces and, if unable to take shelter before the storm reached them, blindly groped to find a safe haven.

On March 24, 1935, an even more ferocious storm—which carried more than twice the amount of dirt excavated to create the Panama Canal—killed all the wheat in Nebraska, half the wheat in Kansas, and a quarter of the wheat in Oklahoma. Two weeks later another storm, moving, according to one observer, with “blizzard-like intensity,” smothered ninety-seven million acres, covering parts of Colorado, New Mexico, Kansas, Texas, and Oklahoma.

As one Garden City, Kansas, woman told a reporter, the dust penetrated everything. Even with the doors and windows “shut tightly . . . those tiny particles seemed to seep through the very walls. It got into cupboards and clothes closets; our faces were as dirty as if we had rolled in the dirt; our hair was grey and stiff and we ground dirt between our teeth.”

Associated Press reporter Robert Geiger is credited with coining the term “dust bowl” in 1935. “Three little words achingly familiar on a Western farmer’s tongue,” he wrote, “rule life in the dust bowl of the continent—if it rains.”
In 1935 the Farm Security Administration (FSA) hired the veteran photographers Dorothea Lange, Arthur Rothstein, and Ben Shahn to document the cruel predicament of farm families hit by the one-two punch of the Dust Bowl and the Depression, many forced to abandon their land in the refugee crisis unforgettable rendered by John Steinbeck in his 1938 novel *The Grapes of Wrath*.

FSA leaders hoped that the photographers’ searing, honest images would help urban Americans appreciate the trials of rural life—and reinforce public support for New Deal conservation and relief efforts.

The pictures did this and more. They gave the nation some of the most lasting images of the Roosevelt era—Lange’s portrait *Migrant Mother*, for example, its subject surrounded by weary children, her face lean, worried, and aged beyond her thirty-two years; or Rothstein’s tender portrayals of life in the dust-covered plains. These images showed how powerful documentary photography could be in arousing public opinion. And they preserved the American past.

Also in 1935, Rexford Tugwell, then director of the federal Resettlement Administration, hired moviemaker Pare Lorentz to produce a series of films on the farm crisis, to be shown, Tugwell hoped, in theaters around the country. Lorentz opted not to use Hollywood sets or professional actors. Instead, he took his camera crews out into the Dust Bowl states and filmed real people reacting to drought, windstorms, hunger, and the awful pangs of dread that accompanied them.

*The Plow that Broke the Plains* premiered at the White House in spring 1936 and captivated Franklin D. Roosevelt. Movie houses, however, goaded by anti–New Deal studios, refused to show it. Lorentz crisscrossed the nation, previewing what he called “the film they dared us to show” to the press. When the *New York Times* reported that a packed city theater had applauded the film, studio heads relented and gave *The Plow* the broad distribution it deserved. In 1938, after Lorentz’s second film, *The River*, proved as successful as his first, FDR established the United States Film Service to educate government employees and the general public about New Deal approaches to “solving contemporary problems.” He appointed Lorentz director.
Above: Dorothea Lange’s famous image of a migrant mother, taken in Nipomo, California, February or March 1936. The photo shows thirty-two-year-old Florence Thompson with three of her seven children. According to the photographer’s notes, the family was living in a large pea pickers’ camp and was destitute due to the failure of the early crop. LOC

Top, right: Two men make their way down a dusty highway in this image, “Toward Los Angeles, California,” by Dorothea Lange, March 1937. LOC

Bottom, right: A contemporary photograph of a Grapes of Wrath billboard along a California highway, by photographer Carol M. Highsmith. The 1939 novel by John Steinbeck helped immortalize the experience of Dust Bowl refugees struggling for a new start in California. LOC
Dams for Resource Conservation and Use

In 1933, not long before his inauguration as president, Franklin D. Roosevelt visited the flood-prone town of Muscle Shoals, Alabama, on the banks of the Tennessee River, and promised conservation policies that would prevent not only soil erosion but also flooding. In fact, as he later told Congress, FDR wanted programs that would look at the big picture, integrating both the productive use and the conservation of resources.

Dams would play an important part in this vision. Though the idea was hardly new—plans for dam systems lay ready for action in sundry locations—the New Deal jump-started their construction as a way to put Americans to work building facilities whose function would be manifold. They could prevent flooding, provide irrigation, facilitate navigation by controlling water flows, and generate power.

The New Deal era saw construction of a series of dams throughout the Tennessee Valley for power generation and flood control, as well as major dams on the Colorado River (Hoover Dam), the Columbia River in the Pacific Northwest (Grand Coulee and Bonneville dams), and the Sacramento River in California (Shasta Dam), among others.

In September 1935, FDR traveled to the drought-parched Arizona-Nevada state line to dedicate the gargantuan Boulder Dam, renamed Hoover Dam in 1947 to recognize former president Herbert Hoover’s role in its planning and initial construction. (Site planning for the dam had begun in the ‘20s, construction in 1931.) An engineering marvel, the dam’s 726-foot-high concrete arch spanned an enormous canyon. Its floodgates helped harness the unpredictable and powerful Colorado River. Its turbines generated enough power to electrify Los Angeles and San Diego, as well as parts of Nevada, New Mexico, Arizona, and Utah.

“For a generation the people of the Imperial Valley had lived in the shadow of disaster from this river,” FDR told those attending the dam’s dedication. “Every spring they awaited with dread the coming of a flood, and at the end of every summer they feared a shortage of water would destroy their crops.” Meanwhile, the Columbia River’s prodigious energy had gone to waste. Its “mighty waters,” FDR announced, “were running unused to the sea. Today we translate them into a great national possession.”

Hoover Dam, as writer Michael Hiltzik has noted, “made the New West.” It gave thousands of farmers and businesses protection against unpredictable floods and a water supply they could depend upon. Water and electricity supplied by the dam served cities as far away as three hundred miles and helped make Los Angeles a major city.

The construction techniques its engineers perfected not only inspired the construction of other major dams but also resolved the major challenge blocking the construction of San Francisco’s Golden Gate Bridge.

It also enticed a new wave of tourists to the region. As the comedian Will Rogers told his fans, “Don’t miss seeing the Boulder Dam. It’s the biggest thing that’s ever been done with water since Noah made the flood look obsolete.”

A contemporary photograph of Hoover Dam near Boulder City, Nevada, by Carol M. Highsmith. Completed in 1935 with the help of Public Works Administration funds, the dam supplied water and electricity to Los Angeles and other population-dense areas of the West. LOC