

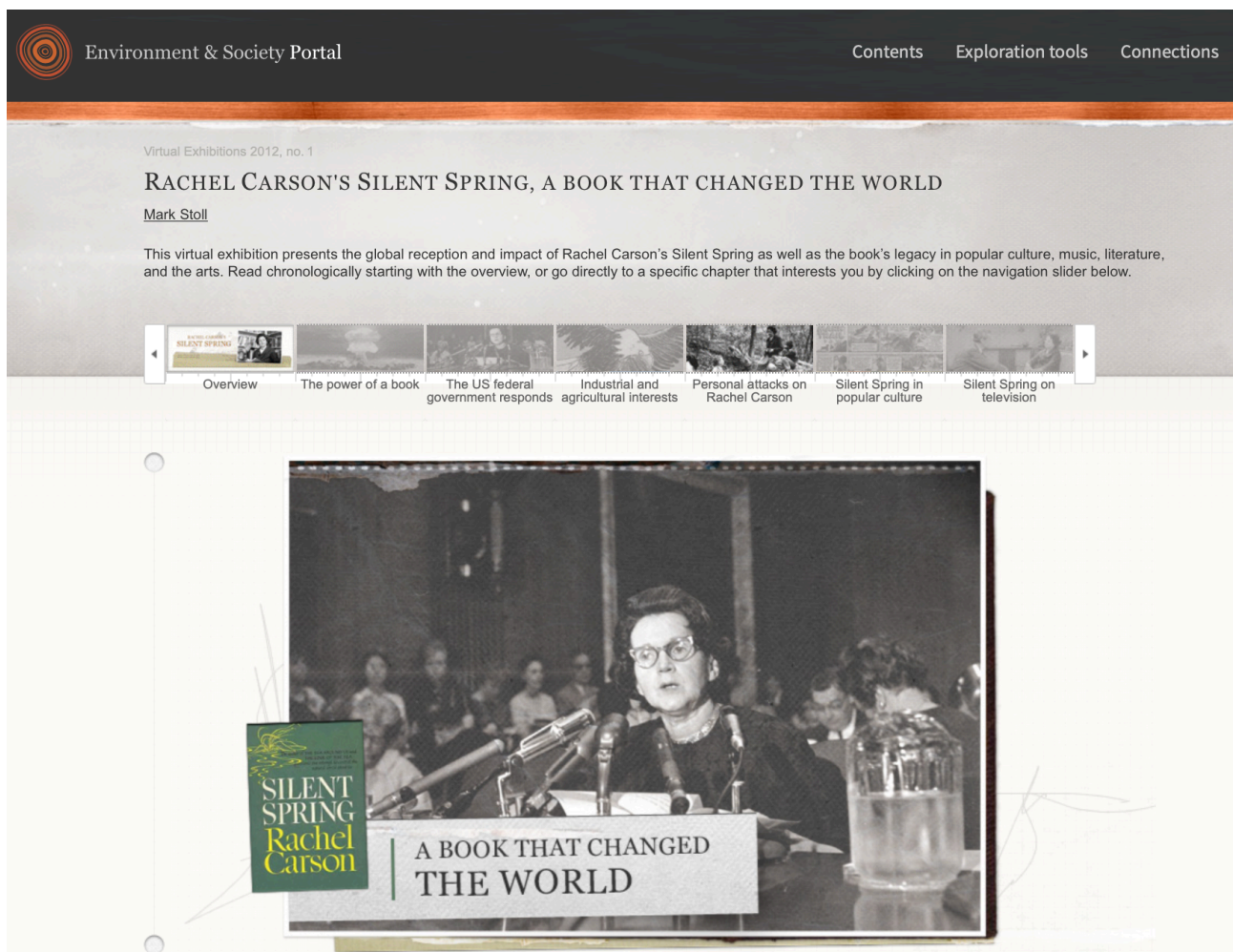


Rachel Carson's *Silent Spring*, a Book that Changed the World

Mark Stoll

The virtual exhibition presents the global reception and impact of Rachel Carson's *Silent Spring* as well as the book's legacy in popular culture, music, literature, and the arts.

This is a compiled PDF of version 1 of the virtual exhibition published in 2012 by Mark Stoll. Version 1 included a navigation slider at the top (see screenshot). The exhibition was updated in March 2020 to make it responsive and archivable. It includes minor content updates from author Mark Stoll. You can find version 2.0 here (<http://www.environmentandsociety.org/exhibitions/rachel-carsons-silent-spring>).



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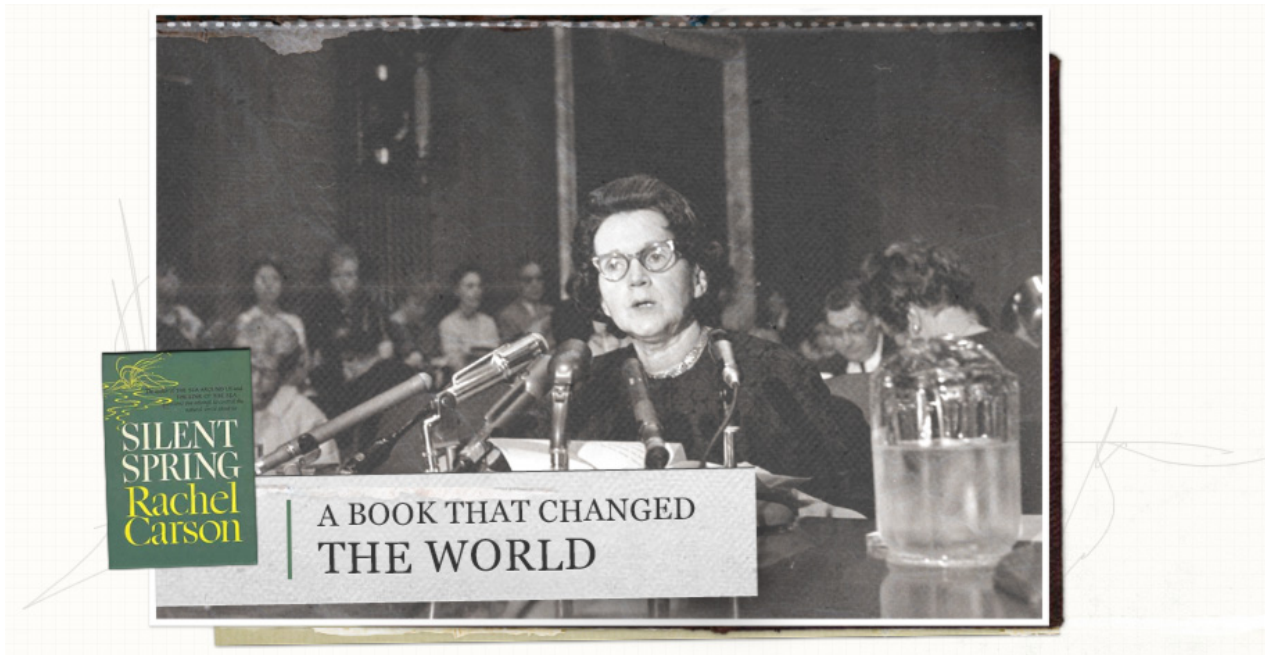
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Mark Stoll is professor of history at Texas Tech University in Lubbock, Texas, and is working on an environmental history of capitalism. Stoll is author of two books, *Inherit the Holy Mountain: Religion and the Rise of American Environmentalism* (2015), and *Protestantism, Capitalism, and Nature in America* (1997), as well as chapters on the influence of religion on Rachel Carson and E. O. Wilson. He has edited "Nature and Human Societies," a book series for ABC-Clio on world environmental history, and with Dianne Glave co-edited "*To Love the Wind and the Rain*": *African Americans and Environmental History* (2006).

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A noisy half century

In her new book [Rachel Carson] tries to scare the living daylights out of us and, in large measure, succeeds. Her work tingles with anger, outrage and protest. It is a 20th-century “Uncle Tom’s Cabin.”

— Walter Sullivan, “Books of the Times,” *New York Times*, 27 September 1962, p. 35

The history books say that the American environmental movement began on 16 June 1962, the date of the *New Yorker* magazine that contained the first of three excerpts from Rachel Carson’s new book, *Silent Spring*. Controversy ignited immediately. Just five weeks later, before the book was even out, a 22 July headline in the *New York Times* declared, “‘Silent Spring’ Is Now Noisy Summer.” Houghton Mifflin released *Silent Spring* on 27 September. It sold hundreds of thousands of copies and stayed on the best seller list for thirty-one months.

'Silent Spring' Is Now Noisy Summer

Pesticides Industry Up in Arms Over a New Book

By JOHN M. LEE

The \$300,000,000 pesticides industry has been highly irritated by a quiet woman author whose previous works on science have been praised for the beauty and precision of the writing.

The author is Rachel Carson, whose "The Sea Around Us" and "The Edge of the Sea" were best sellers in 1951 and 1955. Miss Carson, trained as a marine biologist, wrote gracefully of sea and shore life.

In her latest work, however, Miss Carson is not so gentle,



Rachel Carson Stirs Conflict—Producers Are Crying 'Foul'

fending the use of their products. Meetings have been held in Washington and New York. Statements are being drafted and counter-attacks plotted.

A drowsy midsummer has suddenly been enlivened by the greatest uproar in the pesticides industry since the cranberry scare of 1959.

Miss Carson's new book is entitled "Silent Spring." The title is derived from an idealized situation in which Miss Carson envisions an imaginary town where chemical pollution has silenced "the voices of spring."

John M. Lee, "'Silent Spring' Is Now Noisy Summer," *New York Times*, 22 July 1962, p. 86.

Reviewer Walter Sullivan was only the first of many to compare *Silent Spring* to Harriet Beecher Stowe's novel *Uncle Tom's Cabin*, the most controversial American book of the nineteenth century. *Silent Spring* inspired immediate outrage and opposition. Chemical and agricultural spokesmen loudly attacked both the book and its author. They alleged ignorance, hysteria, misstatements, cultism, and communist sympathies.

Yet *Silent Spring* also galvanized conservationists, ecologists, biologists, social critics, reformers, and organic farmers to join in the American environmental movement. Carson's sensational best seller helped transform and broaden the older conservation movement into more comprehensive and ecologically informed environmentalism. Moreover, through dozens of translations, *Silent Spring* affected events abroad and prepared the way for the rise of environmental and Green movements worldwide.

Today, half a century later, *Silent Spring* continues to outrage many conservatives and inspire environmentalists.

Quiet, reserved, and very private, *Silent Spring's* author was no radical rabble-rouser. Carson was born on 27 May 1907 in Springdale, Pennsylvania, near Pittsburgh. From an early age she aspired to be a writer but at college she switched her major from English to biology. Carson earned a masters' degree in zoology from Johns Hopkins University in 1932 but interrupted her doctoral studies due to financial problems during the Great Depression. She took a job as a biologist with the US Bureau of Fisheries—later the US Fish and Wildlife Service—and wrote and edited informational materials for the public.

In her spare time Carson wrote *Under the Sea-Wind*, published in 1941. Her second book, *The Sea Around Us*, was a fantastic success. It zoomed to the top of the best seller list in 1952 and remained there for a record eighty-six weeks. A new edition of *Under the Sea-Wind* joined it there. Success enabled Carson to resign from her job and write full time. In 1955 her third book, *The Edge of the Sea*, reached the best seller lists, too.


Carson then turned her attention to a problem that had concerned her for at least a decade: the use and abuse of dangerous new chemicals in agriculture and pest control. She tried to get other authors interested in the topic, but in the end she found that she had to write the book herself—*Silent Spring*.



Rachel Carson, "the gentle storm center," as *Life* magazine called her, poses in her study with *Silent Spring*. Used with permission © ddp images.

Unfortunately, Carson would only see the beginnings of the revolution she helped start. Halfway through the research and writing of *Silent Spring* she was diagnosed with breast cancer. Wearing a wig and sometimes moving with difficulty, she hid her illness from the public while she defended her book on television, at congressional hearings, and before many audiences. On 14 April 1964, Carson died at her home in Silver Spring, Maryland, at age fifty-six.

This exhibition presents the global reception and impact of Rachel Carson's *Silent Spring*. On one side are the attacks that began even before a word was printed, as well as the vilification of the present day. On the other is found the equally persistent admiration and support for Carson and her book from scientists, policymakers, activists, and the general public. Portions of the exhibition rely on quite thorough and extensive documentation, particularly for the United States, where *Silent Spring* had its earliest and greatest impact. Other sections go beyond previous accounts to emphasize popular culture, music, literature, and the arts. They also give equal weight to the book's international legacy. A dozen years ago I began studying and comparing *Silent Spring's* international impact. The very different reception of the book in the various nations of Europe intrigued me. I offer here some of my research and my explanations why the book was so powerful in the U.S. and Sweden but not so influential elsewhere. I would have been delighted to include more about *Silent Spring* in the non-Western world, but as far as I can discover no one has explored the topic in Asia, Africa, or Latin America and my own research did not turn up anything of significance. That story is still waiting to be written.

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- <http://www.environmentandsociety.org/exhibitions/silent-spring/power-book>

The power of a book



Tests of hundreds of nuclear weapons in the open air spread radioactive fallout from pole to pole—invisible cancer-causing isotopes that found their way into food and into human bodies. Public alarm was coming to a peak just when *Silent Spring* came out.



Photo courtesy of National Nuclear Security Administration / Nevada Site Office.

“Elixirs of Death,” “Needless Havoc,” “And No Birds Sing,” “Rivers of Death,” “Beyond the Dreams of the Borgias”: *Silent Spring*’s chapter titles seem to promise a lurid muckraker. The text, however, is impassioned but scrupulously scientific. Critics called the book inaccurate and exaggerated but they could never name specific examples of errors. The most telling criticism was that it one-sidedly omitted any positive benefits of chemicals. Rachel Carson’s defenders responded that the chemical industry’s promotion efforts had already done that quite well.

Other writers had written on overuse and misuse of chemical pesticides and herbicides and hardly anyone noticed. Why was *Silent Spring* so different? The most important reason was Carson herself, the most popular nature writer of the 1950s, with three recent best sellers. As the latest book by Carson, *Silent Spring* had a ready public who looked forward to it with keen interest.

Second was the quality of the writing itself. Surely no one but Carson had the literary skills to write an international best seller about chlorinated hydrocarbons. Decades of writing science for the public prepared her to present complex science to the general public in ways that both made it readily understandable and drew the reader in.

Finally, recent events and health scares had prepared the American public to hear and respond to the frightening message of *Silent Spring*. Most dramatic was the worrisome spread of radioactive substances across the globe from a spree of open-air tests of nuclear weapons. Carson explicitly compared pesticides to radiation: both were invisible, unavoidable, and threatening. Her explicit comparisons to now well-known health dangers from radiation made her task much easier to explain the very similar threats from dangerous agricultural chemicals.


Silent Spring specifically mentioned the unlucky radioman aboard the *Lucky Dragon*, a Japanese fishing boat. In 1954, the boat was working downwind of a hydrogen bomb test in the Pacific that unexpectedly covered it in radioactive fallout. The illness of the crewmen, the death of the radioman, and US government denials caused a major international incident. Alarming, radioactive fish from the *Lucky Dragon* and other downwind fishing boats went on the market in Japan and were consumed before anyone realized the danger.

The first pollutant named in *Silent Spring* was not a pesticide but strontium 90, a radioactive byproduct of nuclear explosions. Scientists at Washington University in St. Louis had recently published preliminary results of their "Baby Tooth Survey," in which they tested hundreds of thousands of baby teeth. Analysis showed that children's teeth (and by implication their bones as well) had absorbed strontium 90. The Baby Tooth Survey convinced President Kennedy to negotiate the Nuclear Test Ban Treaty of 1963.

Carson also alluded to a health scare about contaminated food in 1959. Just before Thanksgiving, Secretary of Health, Education, and Welfare Arthur Flemming announced that some cranberries had been contaminated by a weed killer that was known to cause thyroid cancer in laboratory rats. A traditional Thanksgiving dish, few cranberries were sold that year and cranberry growers suffered huge losses.



FDA medical officer Frances Kelsey receives the President's Distinguished Federal Civilian Service Award from President John F. Kennedy at a White House ceremony in 1962.

 1962 Federal Drug Administration [View source](#)

Then in 1962, just as *Silent Spring* was being published, reports hit the media that Frances Kelsey, a female physician with the Federal Drug Administration, had single-handedly prevented sale of thalidomide on the American market. Journalists revealed for the first time how doctors in Europe and Canada had prescribed the drug to prevent morning sickness during pregnancy, resulting in appalling birth deformities. That a lone woman stopped a powerful chemical agent misapplied by well-intentioned experts brought home the message of *Silent Spring* as few events could.

Consequently, when best-selling author Rachel Carson's *Silent Spring* appeared in bookstore windows with its well-told tales of invisible chemical poisons pervading the world and contaminating food, it raised a public clamor that was heard around the world.



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- <http://www.environmentandsociety.org/exhibitions/silent-spring/overview>
- <http://www.environmentandsociety.org/exhibitions/silent-spring/us-federal-government-responds>

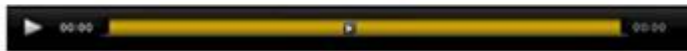
The US federal government responds

It's impossible to do justice today to Rachel Carson's impact. I was in government at the time, and I remember all over Washington, people were talking about this book.

—Bill Moyers, *Bill Moyers Journal* (21 September 2007)

The US federal government responded quickly to *Silent Spring*. Disturbed by the excerpts of *Silent Spring* in the *New Yorker*, President John F. Kennedy asked the Life Sciences Panel of the President's Science Advisory Committee (PSAC) to investigate her claims. At a press conference on 29 August 1962, a reporter noted public concern about the use of pesticides and asked Kennedy whether he had directed "the Department of Agriculture or the Public Health Service to take a closer look at this." He responded, "Yes, I—and I know that they already are—I think particularly, of course, since Miss Carson's book but they are examining the matter." On 15 May 1963, the PSAC released its report with the President's clear approval. Rachel Carson and the press regarded it as a vindication of the book. The report did much to silence industry and agricultural critics and buttress the book's scientific credibility. Foreign reviews of translations often mentioned that the Kennedy panel had substantiated *Silent Spring's* claims.

Press Conference, 29 August 1962



At a press conference on 29 August 1962, John F. Kennedy answered a question about the government's response to *Silent Spring*. [Carson question and answer, 26:47–27:11]

Secretary of the Interior Stewart L. Udall was an immediate convert. He invited Carson to attend one of the "Kennedy Seminars" at the Virginia home of Attorney General Robert F. Kennedy, the President's brother, where a small influential group had the opportunity to hear her. In both the Kennedy and Johnson Administrations Udall became the leading governmental advocate for pesticide regulation. He published his own book on environmental problems, *The Quiet Crisis*, in 1963, in the wake of *Silent Spring*.



Rachel Carson testifying before the Senate Government Operations subcommittee studying pesticide spraying (June 4, 1963). Used with permission © 1963 ddp images.

Silent Spring prompted Congressional hearings. On 4 April 1963, the day after a CBS documentary on the book aired, Connecticut senator Abraham Ribicoff announced hearings on pollution, including federal regulation of pesticides. Hearings started on 16 May, serendipitously one day after PSAC released its report. On 4 June, Carson testified. Echoing Abraham Lincoln's famous greeting of Harriet Beecher Stowe, Ribicoff welcomed her with the words, "You are the lady who started all this."

After *Silent Spring*, Congress revised the regulation of chemicals. Prior to 1962, the government regulated pesticides mainly to ensure that chemical preparations were effective and not fraudulent. The Insecticide Act of 1910 and the Federal Insecticide, Fungicide, and Rodenticide Act of 1947 (FIFRA) served these goals. A 1952 amendment to the Food, Drug, and Cosmetic Act established a procedure for setting tolerances for chemical residues in food, feed, and fiber, but not for regulation of chemical use itself. Now Congress amended FIFRA to include attention to safety considerations in pesticide labeling.

Repeated environmental crises during the 1960s, including major events like the Santa Barbara, California, oil well blowout and the Cuyahoga River fire in Cleveland, Ohio, kept environmental issues in the headlines. The astonishing success of the first Earth Day in April of 1970 put tremendous pressure on politicians to act. The Nixon Administration established the Environmental Protection Agency (EPA) in 1970 and gave it authority to set tolerances for chemical residues. Congress amended FIFRA in 1972 to transfer pesticide regulation to the EPA and mandated protection of public and environment health. The EPA ceased licensing DDT in 1972.

The Toxic Substances Control Act of 1976 was *Silent Spring's* greatest legal vindication. It directed the EPA to protect the public from "unreasonable risk of injury to health or the environment." Under its authority, the EPA acted to ban or severely restrict all six compounds indicted in *Silent Spring*—DDT, chlordane, heptachlor,

dieldrin, aldrin, and endrin—and assumed responsibility for testing new chemicals.



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- <http://www.jfklibrary.org/Asset-Viewer/Archives/JFKWHA-124.aspx>
- <http://www.environmentandsociety.org/exhibitions/silent-spring/power-book>
- <http://www.environmentandsociety.org/exhibitions/silent-spring/industrial-and-agricultural-interests-fight-back>

Industrial and agricultural interests fight back

If man were to follow the teachings of Miss Carson, we would return to the Dark Ages, and the insects and diseases and vermin would once again inherit the earth.

—Robert H. White-Stevens, interview, *CBS Reports* (3 April 1963)

Agriculture and industry did not passively sit by. When they got word of the forthcoming publication of *Silent Spring*, leaders of the chemical industry launched a counterattack on this threat to its commercial interests. Velsicol Corporation, a manufacturer of chlordane, sent a letter to Houghton Mifflin threatening a libel suit if it published the book. The National Agricultural Chemical Association (NACA) funded a public relations campaign with \$25,000, a substantial sum in 1962. NACA took out advertisements, sent letters to the editor, published pamphlets and put out a newspaper insert, all touting the safety and necessity of agricultural chemicals.

NO LONGER ENDANGERED



BALD EAGLE
DUE TO BANNING OF DDT

STILL ENDANGERED



MALARIA VICTIMS
DUE TO BANNING OF DDT

Chip Bok's political cartoon on 29 June 2007, the centennial year of Carson's birth, links the ban of DDT with malaria victims in Africa. © 2007 Chip Bok. By permission of Chip Bok and Creators Syndicate, Inc.

Carson had friends in the agricultural chemical industry, in agricultural schools, and in government, many of whom had given her information that their bosses were not eager to make public. Scientists and researchers however believed their discoveries benefited farmers and helped feed a growing world. *Silent Spring* placed their work in the sinister context of profit-driven corporations and complicit government and educational

institutions. They reacted with hostility to both author and book.

The cover of the magazine *Farm Chemicals* for October 1963 featured a cartoon in which figures representing three industry spokesmen who testified before Congress forcefully make their case to Uncle Sam, one pounding the table with his fist, another pointing his finger in accusation, and the third gesturing thumbs down. Behind them, a witch on her broomstick flies by. (The publisher of *Farm Chemicals*, Meister Media International, refused permission to reproduce the cover here.)

Pesticide advocates claimed that without chemicals, agriculture would collapse. In 1963 Monsanto published "The Desolate Year," a parody of "A Fable for Tomorrow," *Silent Spring's* opening chapter, which described a starving world without chemical pest control. The Montrose Chemical Company, the principal American manufacturer of DDT, publicized 1970 Nobel laureate Norman E. Borlaug's prediction that without DDT and pesticides, modern agriculture would fail and mass starvation would ensue. Borlaug added diatribes against the National Audubon Society and the Environmental Defense Fund for their opposition to DDT.

NACA and agricultural-chemical manufacturers embarked on a long campaign of misinformation to discredit *Silent Spring* and the anti-DDT movement. Two chemists at the American Cyanamid Company, Thomas H. Jukes, later professor of medical physics at the University of California, Berkeley, and Robert H. White-Stevens, later professor in the Bureau of Conservation and Environmental Science at Rutgers University, led attacks on Carson, particularly for her criticisms of DDT. Jukes and White-Stevens seized upon the Audubon Society's Christmas Bird Count, held annually since 1900 and published in *American Birds*, to assert that bird populations had actually increased since the introduction of DDT and chemical pesticides. "Thus robins," claimed White-Stevens, "over which Miss Carson despairingly cries requiem as they approach extinction, show an increase of nearly 1200% over the past two decades" (White-Stevens 1963, cited in Clement 1972, 446). Widely picked up by agricultural newsletters and newspaper columns, the Bird Count argument was not published in a scientific journal until 1964, when scientists quickly refuted it.

In 1971, Jukes published "D.D.T., Human Health, and the Environment" in *Environmental Affairs*, charging that banning DDT would create a global prejudice against the chemical that would cause the collapse of the antimalarial campaign and cost human lives. The World Health Organization had insisted for years that DDT was the only cost-effective means to control malaria-carrying mosquitoes. However, already by the early 1970s mosquitoes were everywhere acquiring resistance to DDT due to its overuse in agriculture. WHO reluctantly stopped using DDT against malaria, but not because of *Silent Spring*.

Nevertheless, American conservatives and libertarians have quite successfully circulated the argument that Carson had provoked a ban on DDT that caused the deaths of millions. A character in Michael Crichton's 2004 novel *State of Fear* stated the banning of DDT killed more people than Hitler did, a claim that has spread across the Internet. Articles in such conservative publications as *Forbes*, *Capitalism Magazine*, *The Washington Times*, *National Review*, and *Reason* attacked Carson. The libertarian advocacy group Competitive Enterprise Institute created the website RachelWasWrong.org.

The accusation that *Silent Spring* indirectly killed millions of Africans flooded the Internet in 2007, the centennial of Carson's birth. The libertarian think tanks American Enterprise Institute and the Cato Institute

praised DDT and attacked Carson for maligning an extremely useful and innocuous chemical. The success of this campaign can be measured in the brief spate of articles in the mainstream American media that picked up the charge.

That these assertions are easily disproved is beside the point. The purpose of the campaign was not to rehabilitate DDT, which actually is only banned in the US. The goal was to undermine confidence in government regulation in general by convincing people that regulation of DDT was disastrous. As Naomi Oreskes and Erik M. Conway have shown in their book *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*, corporations have used methods developed to counter the science of smoking and health to spread doubt about science and regulation in connection with DDT, acid rain, ozone depletion, and global warming.



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- <http://www.environmentandsociety.org/exhibitions/silent-spring/personal-attacks-rachel-carson>

The personal attacks on Rachel Carson as a woman scientist

Miss Rachel Carson's reference to the selfishness of insecticide manufacturers probably reflects her Communist sympathies, like a lot of our writers these days. We can live without birds and animals, but, as the current market slump shows, we cannot live without business. As for insects, isn't it just like a woman to be scared to death of a few little bugs! As long as we have the H-bomb everything will be O.K.

—Letter to the editor of the *New Yorker* [cited in Smith 2001, 741]

Opponents of *Silent Spring* attacked Rachel Carson personally. They accused her of being radical, disloyal, unscientific, and hysterical. In 1962, at the height of the Cold War with the Soviet Union, criticism of the United States struck many as unpatriotic or sympathetic with communism. Former Secretary of Agriculture Ezra Taft Benson wrote privately to former President Dwight Eisenhower that Carson was “probably a communist” (Lear 1997, 429). Velsicol's threatening letter to Houghton Mifflin argued that if the public demanded elimination of pesticides, “our supply of food will be reduced to East-curtain parity [i.e., as inefficient as the Communist nations east of the ‘Iron Curtain’]” (Smith 2001, 736).

If not an outright Communist, surely Carson was linked to “food faddists” or, as William Darby of the Vanderbilt University School of Medicine characterized them, “the organic gardeners, the anti-fluoride leaguers, the worshippers of ‘natural foods,’ and those who cling to the philosophy of a vital principle, and pseudo-scientists and faddists” (Smith 738). Another decade or two would pass before most Americans considered organic gardening or natural foods as fit for anyone but cranks and misfits.



Never underestimate the power of a woman.

The great editorial cartoonist Bill Mauldin of the *Chicago Sun-Times* illustrates the gender dimension of the controversy over Carson and *Silent Spring*. In this 27 October 1963 cartoon he pairs her with Jessica Mitford, author of *The American Way of Death*, a scathing indictment of the funeral home industry. Men from both industries have been flattened under the platens of the women's typewriters.

Used with permission © 1963 by Bill Mauldin. Courtesy of Bill Mauldin Estate LLC.

Allegations that Carson was just a hysterical woman appeared both in the pages of chemical and agricultural trade journals as well as in the popular press. Women were imagined to be less rational, more emotional, and more sentimental than men, who could be relied upon to study the issues dispassionately and propose rational solutions. An agricultural expert told a reporter at the Ribicoff hearings, "You're never going to satisfy organic farmers or emotional women in garden clubs" (Graham 1970, 88). In his letter to Eisenhower, Benson wondered why a "spinster was so worried about genetics" (Lear 1997, 429).

As Carson had no institutional affiliation, she was dismissed as an amateur who did not understand the subject like a professional scientist would, or who distorted or misread the science. To her critics, Carson's frequently use of terms like "nature," "natural," and "balance of nature" identified her as a mere sentimental nature lover or a pantheist like Ralph Waldo Emerson or Henry David Thoreau. Reviews in *Time*, *U.S. News and World Report*, and even *Sports Illustrated* took her to task. The reviewer in *Time*, for examples, criticized her "emotion-fanning words" and characterized her argument as "unfair, one-sided, and hysterically overemphatic." He traced her "emotional and inaccurate outburst" to her "mystical attachment to the balance of nature" (Brooks 1989, 297).



In its 12 October 1962 issue, *Life* magazine included this photo of Carson talking with children in the woods by her home. Below it on the same page was a picture of Carson with her cat. Used with permission © 1962 Alfred Eisenstaedt (Time & Life Pictures).

Even inoffensive public portraits of Carson showed her in more domestic rather than scientific settings. *Life* magazine published a story about her accompanied by photos of her talking with children while on a nature walk or watching birds with a group of Audubon Society members. Dressed like a housewife and surrounded by children and "bird people," Carson projected an image of a teacher or stay-at-home mother, although the picture on the first page of the article showed her at a microscope. Carson, said the story, "is unmarried but not a feminist ('I'm not interested in things done by women or by men but in things done by people')" (105).

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Silent Spring in popular culture



Bill Mauldin captured the essence of Carson's argument in this *Chicago Sun-Times* cartoon of 1 September 1962. Used with permission © 1962 by Bill Mauldin. Courtesy of Bill Mauldin Estate LLC.

A huge American best seller and October selection of the influential Book-of-the-Month Club, *Silent Spring* was famous even to those who never read it. The photo story in *Life* magazine made Rachel Carson's face familiar to the wider public. Although Carson jealously guarded her privacy, she had become a celebrity against her will.

Silent Spring entered popular culture and its argument filtered into popular consciousness. *Popular Science* published an article in June 1963 on "How to Poison Bugs ... but NOT Yourself." Another article, "And Was It a Silent Spring?" in the June 1963 issue of *Popular Mechanics*, investigated one of the instances of pesticide poisoning that Carson reported, in the Sheldon-Donovan area of Illinois, and confirmed her account with horrifying new details.

Dozens of cartoons appeared in magazines and editorial pages across the nation. Bill Mauldin, a beloved editorial cartoonist for the *Chicago Sun-Times*, drew on Pyrrhus's famous remark about his costly military victory against the Romans (the first "Pyrrhic victory"). Two magazines famed for cartoons, the *New Yorker* and the British *Punch*, printed several about Carson or *Silent Spring*.

In a sure sign she had become a cultural icon, Carson appeared in the comics pages of newspapers. In 1962 and 1963 Charles Schulz referred to her in four different daily strips in his hugely popular *Peanuts* comic strip. Perhaps to avoid controversial issues, they alluded to Carson's sea books instead of *Silent Spring*, but they leave no doubt that Schulz admired her.

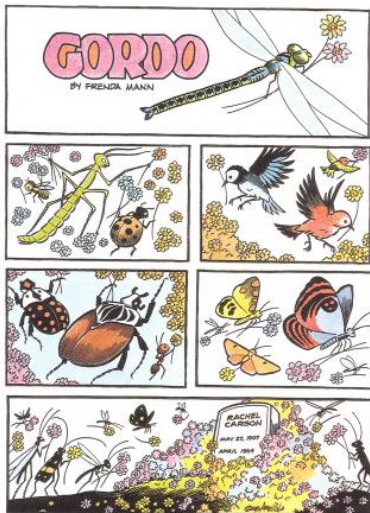


Rachel Carson's name appearing in a *Peanuts* comic strip. Illustration by Charles Schulz. PEANUTS © 1962 Peanuts Worldwide LLC. Dist. By ANDREWS MCMEEL SYNDICATION. Reprinted with permission. All rights reserved.



Rachel Carson portrayed as a role model in *Peanuts*. Illustration by Charles Schulz. PEANUTS © 1963 Peanuts Worldwide LLC. Dist. By ANDREWS MCMEEL SYNDICATION. Reprinted with permission. All rights reserved.

Gus Arriola's *Gordo*, the first major comic strip with Mexican characters, honored Carson twice, with a daily strip on 11 April 1970 near the sixth anniversary of her death and a Sunday version for her 77th birthday, 27 May 1984.



Gus Arriola paid tribute to Carson in 1970 on the anniversary of her death, and then to memorialize her birthday reworked the daily into a Sunday strip in 1984. © 1984 Gus Arriola. Courtesy of the Bancroft Library.



Gus Arriola strip (11 April 1970) © 1970 Gus Arriola. Courtesy of the Bancroft Library.

Ed Dodd's *Mark Trail*, a comic strip about a forest ranger that wove conservation themes into its storylines, used its Sunday strips to educate the public about bio-concentration of chemicals in fish and game, as well as other issues that *Silent Spring* publicized.



As the character Mark Trail states in this Sunday strip from around 1963, the strip conservatively avoided controversial issues and stuck to traditional values of conservation, but here artist Ed Dodd discusses the way pollutants concentrate as they work their way up the food chain to human consumers. © 1962 Ed Dodd. Courtesy of King Features Syndicate/ Distr. Bulls..

Carson and *Silent Spring* have inspired or appeared in much popular music. Surely the best-known musical reference to Carson is in the hit song "Big Yellow Taxi," from singer-songwriter Joni Mitchell's 1969 album *Ladies of the Canyon*. Mitchell sang, "Hey, farmer, farmer / Put away that DDT now / Give me spots on my apples / But leave me the bird and the bees / Please!" Counting Crows' version of "Big Yellow Taxi" made it a hit song for a new generation in 2002.

Silent Spring has inspired an increasing number of popular songs as time goes on. Some songs have a harder rock

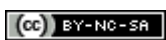
edge. Scottish rock band Primal Scream's first album, *Sonic Flower Groove* of 1987, featured "Silent Spring," which complained that we were standing by while Mother Earth died. Experimental rock band Pere Ubu's 1998 album *Pennsylvania* featured "Silent Spring" and the heavy metal band Probot released a bitter "Silent Spring" on its 2004 album.

Several tributes have been non-vocal instrumental pieces. Tony O'Connor mixed music and sounds of the rainforest for his "Silent Spring" on his 1991 album *Rainforest Magic*. The Eagles' Glenn Frey released an instrumental "Silent Spring" on *Strange Weather* in 1992 and the British rock group Yes recorded "Silent Spring" on their 1994 album *Talk*.

Recently politically minded songwriters have honored Carson and her book. In 2004, Emma's Revolution, a politically radical duo singing protest songs in the tradition of Pete Seeger, released *One × 1,000,000 = Change*, with "Silent Spring," in homage to Carson. Blackbird Raum, a green anarchist band from Santa Cruz, California, has also written and performed "Silent Spring." Bolivian popular rock singer Grillo Villegas sings "Primavera Silenciosa," mourning ecological destruction and demanding, "La primavera silenciosa / debe volver a cantar" (the silent spring / must sing again). The song appeared on the 2006 compilation album *Contigo Avanzar*.

Jazz musicians have frequently honored *Silent Spring*. On her 1963 issue-oriented album *Here's Lena—Now!*, jazz great Lena Horne sang, "Not a leaf is heard to murmur / Not a bird is heard to sing," in "Silent Spring," written for her by E. Y. Harburg and Harold Arlen. Jazz singer Carmen McRae recorded Allan Paul Shatkin's angrier "Silent Spring" in 1971. In 1999, Belgian composer Nathalie Lories's jazz trio released an album entitled *Silent Spring*. Ninety-year-old jazz pianist and environmentalist Marian McPartland performed her composition "A Portrait of Rachel Carson" in 2007 with the University of South Carolina Symphony Orchestra under Donald Portnoy.

Silent Spring has also inspired classical music. In 1976, English composer James Brown wrote "Silent Spring" for voice and piano, with words by V. C. Staples. For the 50th anniversary of *Silent Spring*, the Pittsburgh Symphony Orchestra honored the city's native daughter by commissioning Pulitzer Prize-winning composer Steven Stucky to write *Silent Spring*, an orchestral tone poem. Director Manfred Honeck led the symphony at the work's world premiere on 12 February 2012, and at its New York premiere on 26 February at Lincoln Center's Avery Fisher Hall.



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Websites linked in this text:

- <http://www.environmentandsociety.org/exhibitions/silent-spring/personal-attacks-rachel-carson>
- <http://www.environmentandsociety.org/exhibitions/silent-spring/silent-spring-television>

Silent Spring on television



CBS reporter Eric Severeid interviews Carson for *CBS Reports* in 1963. Used with permission © 1963 CBS Photo Archive.

But to best understand Carson’s legacy, there’s no better place to look than Catalina Island, just off the coast of southern California—home again to the bald eagle. The eagles had all but disappeared after DDT was dumped into local waters, which led egg shells to become so thin that chicks couldn’t survive. But just this month, for the first time in decades, eggs left in nests in the wild hatched on their own. Ann Muscat, president of the Catalina Island Conservancy, believes the eagles owe it all to Rachel Carson.

—Caitlin A. Johnson, “The Price of Progress,” CBS (aired 19 September 2007)

Two major American national television networks, the Columbia Broadcasting Service (CBS) and the Public Broadcasting Service (PBS), have broadcast programs about Rachel Carson and *Silent Spring*.

The first program had a very significant impact. On 3 April 1963, *CBS Reports* broadcast an hour-long investigation, “The Silent Spring of Rachel Carson.” Despite Carson’s concerns that cancer treatments were sapping her strength, she came across as calm and eminently reasonable, particularly in contrast with Robert White-Stevens, spokesman for the agricultural chemical industry. Dressed in a white lab coat and speaking in a stiff accent, White-Stevens in fact came off as extreme when he made such exaggerated statements as this: “The

major claims of Miss Rachel Carson's book, *Silent Spring*, are gross distortions of the actual facts, completely unsupported by scientific, experimental evidence, and general practical experience in the field... . If man were to faithfully follow the teachings of Ms. Carson, we would return to the Dark Ages and the insects, and the diseases, and the vermin would once again inherit the Earth." The documentary came just six weeks before the report of Kennedy's advisors effectively substantiated the main claims of *Silent Spring*, and together they bolstered its authority while deepening its impact.

Founded in 1970, PBS first reported on *Silent Spring* in 1993, thirty years after its publication. The series *The American Experience*, hosted by historian David McCullough, broadcast the hour-long historical documentary "Rachel Carson's Silent Spring," with readings by actress Meryl Streep and excerpts from *CBS Reports*. Many of Carson's friends and colleagues were still living and were interviewed for the program.



Link to CBS News Video "[Price of Progress](#)".

On 19 September 2007, for the centennial of Carson's birth, *CBS News* revisited *Silent Spring* with a ten-minute story, "The Price of Progress," written by Caitlin A. Johnson and reported by Thalia Assuras. It included extensive clips from *CBS Reports* and a video of Kennedy's news conference. Perhaps intended to counter current conservative vilification of *Silent Spring*, *CBS News* presented a sympathetic view of the book and its message.



Link to Bill Moyers [Journal on Rachel Carson's Legacy](#)

Two days later, on 21 September 2007, reporter Bill Moyers dedicated his hour-long *Bill Moyers Journal* to celebrating Carson and her book. He integrated video excerpts of actress Kaiulani Lee's one-woman stage play about Carson. Moyers intended his program to counter the libertarian-conservative attack on Carson.

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- <https://www.pbs.org/video/bill-moyers-the-journal-rachel-carsons-legacy/>
- <https://www.pbs.org/video/bill-moyers-the-journal-rachel-carsons-legacy/>
- <http://www.environmentandsociety.org/exhibitions/silent-spring/silent-spring-popular-culture>
- <http://www.environmentandsociety.org/exhibitions/silent-spring/silent-spring-literature-and-arts>

Silent Spring in literature and the arts

... I want to remember Rachel Carson's spirit. I want it to be both fierce and compassionate at once. I want to carry a sense of indignation inside to shatter the complacency that has seeped into our society. Call it a sacred rage, a rage that is grounded in the knowledge that all life is intertwined. I want to know the grace of wild things that sustains hope.

—Terry Tempest Williams, “The Moral Courage of Rachel Carson”

Rachel Carson happily acknowledged her debt to her literary heroes, the nature writers Henry Beston and Henry Williamson especially, as well as Henry David Thoreau, Richard Jeffries, and H. M. Tomlinson. How appropriate, then, that in some sense every nature writer since Carson, from poets to playwrights, writes in the lengthened shadow of *Silent Spring*. Quite a number, in fact, allude to her and her book directly, either taking explicit inspiration from Carson and her work or responding to them.


Nature writers who explicitly speak of Carson mention both her profound impact on the modern environmental movement as well as her influence on them personally. Seminal nature writer Scott Russell Sanders lists Carson alongside figures such as Aldo Leopold, John Muir, and Henry David Thoreau (Sanders 2009, 57 and 81). Prolific poet and essayist Alison Hawthorne Deming cites Carson's *Silent Spring* as one of the books that has most influenced her. And Rebecca Solnit, whose work often centers on landscape and ecology, credits *Silent Spring* with leading to “the far greater environmental literacy of the public, the necessary precursor to any broad environmental movement” (Solnit 2007, 300). Environmental philosopher and nature writer Kathleen Dean Moore brings together both reactions in her work. In “The Truth of the Barnacles: Rachel Carson and the Moral Significance of Wonder” Moore links the “sense of wonder” evoked by Carson to environmental ethics. In *Wild Comfort: The Solace of Nature*, Moore's collection of introspective essays, Carson's writings often serve as the springboard for contemplation. She ruminates on Carson's observations of our interconnectedness with nature while considering her own place in the world around her.

Three literary events pay tribute to Carson and hope to extend her influence. Nature and Environmental Writers - College and University Educators, Inc., (NEW-CUE) sponsors a biennial Environmental Writers' Conference in honor of Carson that uses nature writing to inspire wonder at the natural world among students and the reading public. Such distinguished literary scholars as Lawrence Buell and Leo Marx have addressed the conferences and award-winning authors Terry Tempest Williams, Mary Oliver, Alison Hawthorne Deming, and Barbara Kingsolver have participated in the lecture series.

Florida Gulf Coast University hosts the Rachel Carson Distinguished Lecture Series, which since 2004 has brought a series of authors and thinkers who have addressed ethical and literary issues regarding the human relation to the earth.

In a more popular vein, since 2007 the EPA, Generations United, the Rachel Carson Council, and the Dance Exchange have annually sponsored “The Sense of Wonder: Rachel Carson Intergenerational Poetry, Essay, Photo and Dance Contest.” The public selects winners in each category.



Poem by Anthony Walton (2011).  2011 Anthony Walton

Carson and *Silent Spring* have inspired a number of poetic responses. The editors of the 2004 collection *Wild Reckoning: An Anthology Provoked by Rachel Carson's Silent Spring* put together a poetic celebration of the "sense of unity of living things" (Burnside and Riordan 2004, 20), which to them epitomizes Carson's enduring influence. The poems range throughout literary history, but the editors also commissioned seventeen of the poems especially for the project, asking each poet to work with a scientist to produce a dialog that would result in a poem. Although most of the poems do not mention Carson directly, the idea of putting poets together with scientists comes directly from Carson's successful blend of science and literature. "The Gift of the Bear," on the other hand, by Robert Wrigley, six-time winner of the Pushcart Prize, is a direct response to *Silent Spring* that engages in poetic conversation with Carson's work.

Other poets pay direct tribute. In 2011, Danielle Devereaux published a cycle of five admiring poems about Carson in the Canadian poetry magazine *Arc*. African-American poet Anthony Walton meditates on how civilization intrudes on wild places in his 2008 poem "In the Rachel Carson Wildlife Refuge, Thinking of Rachel Carson." Award-winning Chilean poet Marjorie Agosin's "Rachel Carson" makes Carson a part of the natural world she sought to save.



In theater, award-winning actress Kaiulani Lee has performed her one-woman play *A Sense of Wonder* since the 1990s. Focusing on the two-year period between the publication of *Silent Spring* and Carson's death, Lee's play tells Carson's "courageous" personal story (Lee, *Bill Moyers Journal*) in the two years after publication of *Silent Spring*, when she faced celebrity, attacks on her and her work, breast cancer, and responsibility for her orphaned nephew. In its 2007 episode about Carson, *Bill Moyers Journal* featured extensive selections from the play interspersed with an interview with Lee.

Carson's life and work have inspired visual art. British sculptor Una Hanbury met her at an Audubon Society dinner shortly before Carson's death and came away very impressed. She created a portrait in bronze, which today is owned by the National Portrait Gallery of the Smithsonian Institution.



One of the paintings in the exhibit "A Fable for Tomorrow," Alexis Rockman's powerful *Manifest Destiny* depicts the Brooklyn waterfront after global warming has raised sea levels. All rights reserved © 2004 Courtesy of artist Alexis Rockman.

One of the first contemporary artists to focus his art on environmental issues, Alexis Rockman has described his role as "artist-advocate" (Lovejoy in Marsh 2010, 151). In 2010, the Smithsonian Institution mounted a retrospective of his career and called it "A Fable for Tomorrow," in explicit reference to the title of the first chapter of *Silent Spring*. Much like Carson, but in a visual medium, Rockman has used his art to publicize the harmful environmental and ecological consequences of a society unable to control itself.



Exterior of Mark Dion's "The Museum of Poison (Biocide Hall)," 2000. Courtesy of **Tanya Bonakdar Gallery**, New York Photography: Oren Slor.



Some of the "exhibits" in Mark Dion's "The Museum of Poison (Biocide Hall)," 2000. Courtesy of **Tanya Bonakdar Gallery**, New York Photography: Oren Slor.

Rockman is one of a group of artists about the same age who deal with representations of nature. The most prominent of them is Mark Dion. Several of his installations refer directly to Rachel Carson but the most powerful of them was his 2000 "Museum of Poison (Biocide Hall)," exhibited in 2000 at Tanya Bonakdar Gallery in New York City, which Dion called "in some way a portrait of Rachel Carson" (Richards 2004, 244).

In a grim parody of a museum, it displayed actual sprayers and canisters of pesticides (or, as Carson suggested they be called, "biocides"), all of which are now banned.

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- <http://www.pbs.org/asenseofwonder/>
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- <http://www.environmentandsociety.org/exhibitions/silent-spring/silent-spring-international-best-seller>

***Silent Spring*, an international best seller**

Silent Spring was quickly available in Europe and across the world. Translations were published in German in 1962; in French, Swedish, Danish, Dutch, Finnish, and Italian in 1963; in Spanish, Portuguese, and Japanese in 1964; as well as in Icelandic in 1965, Norwegian in 1966, Slovenian in 1972, Chinese in 1979, Thai in 1982, Korean in 1995, and Turkish in 2004.

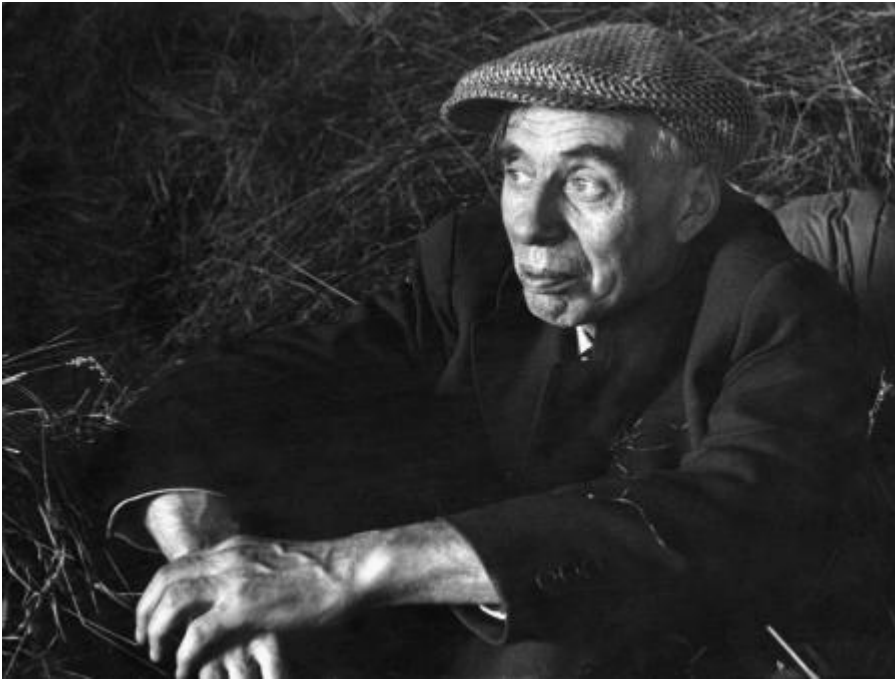
Abridged selections also appeared on the pages of popular periodicals. Hundreds of thousands who never picked up the book could read Carson's words on the pages of the popular French magazine *Paris-Match* and the regional newspaper *La Dépêche du Midi*, the Italian journal *L'Europeo*, the Dutch weekly newspaper *Elseviers Weekblad*, the Swedish magazine *Vi*, or *Helsingin Sanomat*, the largest Finnish newspaper. Dozens of reviews appeared in every major Western European nation as well as in communist Hungary and Yugoslavia.

Sweden and Finland: Where did the birds go?



Swedish headline: "When the Birdsong Falls Silent." All rights reserved © 5
February 1963 *Vi* magazine.

In Sweden *Silent Spring* provoked even more controversy than in the United States. It even changed the language. Carson had argued that because agricultural chemicals get into the soil and water and poison all living things from worms to humans, "insecticides" should more correctly be called "biocides." As soon as the book appeared in Swedish, "biocides" "biocid" replaced "pesticides" "pesticid" in common language, which occurred nowhere else.



Erik Rosenberg, Sweden's leading ornithologist, raised the alarm about the disappearance of the nation's birds. All rights reserved © SVT - Sveriges Television
Photographer: Jarl Ekenryd (Skansen).

Swedes reacted so strongly to *Silent Spring* in part because of an uproar caused by a recent series of newspaper articles and ornithological society publications about deaths of birds from treated seed-grain. Famed ornithologist Erik Rosenberg, author of *Fåglar i Sverige* [Birds of Sweden], the chief popularizer of bird-watching among generations of Swedes, had been raising the alarm about the decline of bird populations. His article "Vart tog tornfalken vägen?" [Where did the kestrels go?] came out in *Sveriges Natur* in 1963, a few months after the Swedish translation of *Silent Spring*. The disquieting disappearance of Sweden's birdlife made a "silent spring" all too easy to imagine.



Nils Dahlbeck (wearing the hat) was a well-known pioneer in Swedish radio and television. On his popular radio program, "Naturen och vi," he publicized *Silent Spring*. All rights reserved © SVT - Sveriges Television Photographer: Jarl Ekenryd (Skansen).

Also at this time, environmental activist Nils Dahlbeck was broadcasting reports on his influential radio program "Naturen och vi" [Nature and us] about the problem of mercury pollution, an industrial and paper-mill byproduct that poisoned fish, birds, and humans. Although Carson never mentioned mercury, the issues merged and provoked a huge public outcry. Conferences and meetings on pesticides convened even before release of the Swedish edition in 1963. The national media, including Dahlbeck on the radio, gave *Silent Spring* a great deal of publicity. Several important Swedish environmental works followed Carson's, notably Hans Palmstierna's *Plundring svält förgiftning* [Plundering starvation poisoning] of 1967.

Moving quickly, the government responded to both pesticides and mercury. In 1967, Sweden became the first nation to establish a comprehensive environmental regulatory agency, the Environmental Protection Board. The following year, it also became the first to pass comprehensive environmental protection legislation, the Environmental Protection Law. When investigations in 1969 showed DDT from wind and rain significantly augmented the amount used by farmers and ended up even in human milk, Sweden was the first country to act broadly against persistent pesticides.

The Swedish government acted so rapidly because *Silent Spring* benefited from an existing Swedish tradition of environmental concern that had produced some of Europe's oldest and most popular nature protection organizations. Moreover, such environmental cautionary books as Elin Wägner's 1941 *Väckerklocka* [Alarm Clock] had prepared paved the way. It was also helpful that Swedish political culture was open to new social issues and had a pragmatic, managerial approach to problems that made a quick response possible.

Finland took note of the lively debates in the US and neighboring Sweden. Soon Finns were debating *Silent*

Spring themselves. Under Swedish influence, "biocide" also entered the Finnish language. Nevertheless, Finnish response was muted because Finnish farmers had been slow to adopt chemicals.

Britain: The House of Lords debates



Lord Edward Shackleton

Son of the famous polar explorer Ernest Shackleton and famous in his own right for his work in conservation, Lord Edward Shackleton wrote the preface to the British edition of *Silent Spring* and participated on 20 March 1963 in a historic five-hour debate on the book in the House of Lords. All rights reserved © National Portrait Gallery.

The British edition of *Silent Spring* came out in February 1963. The Duke of Edinburgh, Patron of the National Trust for Nature Conservation, handed out advance copies. Minister of Agriculture Christopher Soames acknowledged the value of Carson's book for inspiring useful debate. On 20 March, at the instigation of Lord Shackleton, who wrote the preface to the British edition, the House of Lords discussed it for over five hours in an unprecedented debate over a single book. However, the British government had for a decade already been dealing with the problems Carson disclosed, and in any case farmers did not rely as much on chemicals as their American counterparts. The Agriculture Ministry's chief scientific advisor wrote that in Britain the evidence did not "justify Miss Carson's gloomy assertions" (Sheail 2002, 236).

Since the pesticide problem in Britain was not as bad as in the US, government policy fairly easily absorbed the book's impact. Government pesticide policy was already a decade old, provoked by the deaths of eight farm workers from weed killer. An Agricultural Ministry Working Group proposed regulations to protect workers that Parliament wrote into law in the Agricultural (Poisonous Substances) Act of 1952. In addition, the Ministry of Agriculture and the Association of British Manufacturers of Agricultural Chemicals followed the Working Group's recommendation in which chemical companies voluntarily notified the government of new pesticides or new uses of old chemicals and provided data on the chemicals' properties and safety.

A problem had arisen in 1957 when seed-grain treated with aldrin and dieldrin killed thousands of game birds. People worried not only about the birds but about the risks of eating surviving game. Although the chemical industry played down the issue, the Nature Conservancy established the now-famous Monks Wood Experimental Station to study the problem. In 1960 a change in method, from dusting the seed to soaking it, intensified both bird deaths and negative publicity. Industry accepted "voluntary" regulations that restricted treated seed to fall planting, when birds had plenty of other food, and bird die-offs significantly declined.

With reason, then, the British government regarded the pesticide problem as under control. However, Carson's book and the report of the President's advisory committee (PSAC) heightened the British government's worries about the danger of several pesticides to human health. Officials found several chemicals marketed by Shell—aldrin, dieldrin, and heptachlor—of particular concern, since they appeared in human fat, although at lower levels than in the United States. Tests found residues in mutton fat, beef, and butter. Extensive debates among various government advisory committees and officials convinced Soames to take a conservative view. Threatened by the possibility of adverse publicity, Shell and the chemical manufacturers' association reluctantly agreed in 1964 to the government's desire to ban those pesticides.

A disastrous international decline of birds of prey throughout the 1960s stimulated further restrictions and led to British toxicologist David Peakall's research that first documented that DDT thinned raptor eggshells. Organopesticides like DDT were then gradually phased out. In response to various legal ramifications and worry over the secrecy of the regulatory process, the government put this voluntary system on a statutory basis with the Food and Environment Protection Act of 1985 and the Control of Pesticides Regulations of 1986. All this was accomplished with much less rancor and industry defensiveness than in the United States and with less public debate than either there or Sweden.

The Netherlands: Silver veils and hidden dangers



The popular Dutch weekly *Elseviers Weekblad* serialized selections of *Silent Spring* over several issues. Elseviers was the only periodical to commission its own illustrations, which were strikingly dramatic and even lurid. All rights reserved © 1963 Elseviers Weekblad.

In the Netherlands, *Silent Spring* made less of an impression on the public than it did on scientists and government officials, and it angered the chemical industry. Rachel Carson's biggest Dutch admirer and

champion was C. J. Briejèr, director of the Dutch Plant Pest Control Service. Briejèr had written a government report in 1957 that documented growing insect resistance to common pesticides, which the government published and the Dutch press reprinted. It came to Carson's attention as a document in an American legal suit to stop aerial spraying of DDT across Long Island. Carson had it translated and published in America. She made it the basis for a crucial chapter of *Silent Spring*, "The Rumbblings of an Avalanche." She initiated a correspondence with Briejèr that continued until her death.



Despite the attention-grabbing illustrations of the Dutch edition that accompanied the excerpts published in *Elseviers Weekblad*, *Silent Spring* had a much more muted impact in the Netherlands and most of Europe than in the United States. All rights reserved © 1963 Elseviers Weekblad.

The help that Briejèr gave Carson provoked political pressure on him and loss of confidence from many within the Plant Pest Control Service. He reported to Carson that the chemical industry had put great pressure on him that stopped when the Kennedy committee issued its report. He resigned in 1965 and wrote his own book, *Zilveren sluiers en verborgen gevaren: chemische preparaten die het leven bedreigen* [Silver veils and hidden dangers: Chemical pesticides that threaten life], in which he took Dutch bureaucrats severely to task for their footdragging.

Briejèr and other Dutch scientists found the cumbersome Dutch government regulatory bureaucracy frustratingly slow. Then in 1966–67 Dutch scientists observed a catastrophic crash in raptor populations due to DDT and a die-off of terns due to pesticides. After that, regulation became much more effective, but the debate occurred mostly in the halls of academia and government. Among the Dutch public, environmentalists alone took real notice of *Silent Spring*.


Germany: Doomed by prosperity?



German periodicals reported on *Silent Spring* with an array of frightening headlines [We are all being slowly poisoned; The pollution of nature: Rachel Carson's battle; Poison disrupts the order of nature; Poison on God's gifts; Spring is not yet silent: misuse of pesticides can boomerang; More dangerous than radioactivity; Do we take small daily doses of poison?; and Poison rains from the sky. Created by the author from originals at Beinecke Library, YCAL MSS 46 Box 62 f. 1108. Used by permission.

In Germany, the League for Bird Protection translated and promoted *Silent Spring*. Comments and articles appeared widely in newspapers, journals, magazines, and on the radio. The publications of the environmental community, vegetarian groups, and disciples of anthroposophy (a kind of spiritual organic farming movement) took great interest, as did of course agricultural and chemical journals, for different reasons. Nature protection and environmental groups warmly praised the book.



As in the US, German chemical companies sought to reassure the public. "German science has insecticides under control," read one calming headline. 

While provoking discussion in the short run, *Silent Spring* appeared to make little longterm impression. West Germans denied that German agriculture had any significant environmental problems. As elsewhere, agricultural and chemical interests played down or rejected the dangers that Rachel Carson exposed. The West German Bundestag did not pass a comprehensive environmental law until 1971 and environmentalism played a relatively

small political role until the 1980s. Not until 1983 did the German Council of Experts on Environmental Affairs address pesticide problems. Moreover, only after the German *Waldsterben* ("death of the forests") fears of 1984, the 1986 fire at the Sandoz agricultural chemical warehouse in Basel that annihilated all life in the Rhine River for hundreds of miles, and 1986 explosion at the Chernobyl nuclear plant did the Green movement really begin its rise.

The anti-modernist undercurrent in *Silent Spring* helps explain also the book's lack of impact in this historically environmentally conscious country. Carson had criticized blind faith in science and government, charged that greed led chemical corporations and their salesmen to promote overuse of their products, and described collusion between government, industry, and science in promotion of chemicals as opposed to other, less dangerous alternatives. Anti-modernists, who mistrusted capitalists, government, and scientists, found Carson's analysis attractive and compelling.

Silent Spring's publication in Germany was ill-timed politically, arriving too late to appeal to the German right, and too soon to appeal to the left. In the 1950s, anti-modernist, anti-American, and pro-environmental rhetoric was mainly the province of the political right. Former Nazi Günter Schwab founded the Weltbund zum Schutz des Lebens ("World Union for Protection of Life") in 1958 and the same year published the huge best seller, *Der Tanz mit dem Teufel* [Dance with the devil], which made some of the same points that Carson would. The most extensive debate in the popular German press over Carson's book appeared in a series of generally favorable articles in the influential conservative weekly *Christ und Welt*, whose editor, Giselher Wirsing, was a former Nazi, SS member, and propagandist for Goebbels. Environmentalist Herbert Gruhl of the conservative Christian Democrats would be involved with the Club of Rome's *Limits to Growth*. Gruhl penned the 1975 best seller *Ein Planet wird geplündert: Die Schreckensbilanz unserer Politik* [The plundering of a planet], an echo of Palmstierna's *Plundring svält förgiftning* and American Fairfield Osborn's *Our Plundered Planet* of 1948.

By 1962, however, right-wing anti-Americanism and anti-modernism were waning. The revolutionary events of 1968 washed much of the remaining Nazi taint from German environmentalism. In 1969, with his promise of "blue skies over the Ruhr," Social Democrat Willy Brandt for the first time made the environment a major part of a German national election campaign. German and other environmentalists rediscovered *Silent Spring* in the early 1970s in part because its social and moral critique tallied with the anti-Vietnam-War movement and youthful cultural and social criticism. Gruhl and Petra Kelly founded the German Green Party in 1979, but the steady leftward drift of the Greens caused Gruhl to leave the party in 1981, only to find conservative political environmentalism permanently marginalized.

Even so, *Silent Spring* may have planted an environmental awareness in Germany that steadily grew. Sales of *Silent Spring* soared after massive fish deaths in the Rhine in 1969 brought Carson's point home. An example of this newly awakened German environmental consciousness is the fifteen-page special report in the 8 January 1973 issue of the news magazine *Der Spiegel*, "Untergang durch Wohlstand? Was Menschen vom Schwein unterscheidet" [Doomed by prosperity? What distinguishes men from swine] (30-44). *Silent Spring* has been a steady seller ever since and has never been out of print in German. By 2007 German editions had sold over 130,000 copies.

France: Before nature dies



Headlines also capture the uproar that *Silent Spring* caused in France [The poisons crisis of the twentieth century; Silent spring or voice crying in the desert?; Chlorinated insecticides poison the United States; These poisons that kill parasites quickly ... and man slowly; A noble voice to the rescue of Nature; and The sorcerer's apprentices. Created by the author from originals at Beinecke Library, YCAL MSS 46 Box 62 f. 1108. Used by permission.

A big hit in France, *Silent Spring* was in its third printing just six weeks after publication in May 1963. The French took notice for several reasons. The publisher, Plon, very well respected. The preface by Roger Heim, director of France's National Museum of Natural History and president of the French Academy of Sciences, gave the book added scientific authority. Heim had also in 1952 authored his own book of environmental warning, *Destruction et protection de la nature*. The popular magazine *Paris-Match* published large extracts from the book, making the book and its thesis known to a broad audience. Eight programs on French radio discussed the book.

Prominent French naturalists followed up on *Silent Spring's* points. Heim wrote a featured article on the book's themes, "Les animaux malades de l'homme," in *Le Figaro Littéraire* (23–29 January 1964). Jean Dorst, a prominent figure in international nature protection organizations and professor and later director at the National Museum of Natural History, published *Avant que nature meure* [Before nature dies] in 1965 to great success. Dorst's book was translated into seventeen languages and motivated the founding of a number of French organizations for the protection of nature.

As in America, leaders in government, agriculture, and the chemical industry worried about the effect of *Silent Spring*. Unlike their American colleagues, they had a ready answer. On 22 May 1963, at the plenary session of the French Phytiatry and Phytopharmacy Society, to which major interests in agriculture and the pesticide industry belonged, internationally respected toxicologist René Truhaut explained that the French government protected public health through its pesticides registration system, which he claimed was extremely rigorous. For the moment, controversy was quieted.

However, as the decade went on, the American debate over DDT along with worries that chemicals endangered the quality of French food inspired a growing stream of articles in the popular press, consumer and medical journals, and organic food magazines. The registration system remained the main line of defense against this growing criticism. However, the system, a legacy of the Vichy Regime of World War II, was founded to eliminate

fraudulent chemical preparations, not protect public health. The Ministry of Agriculture, which oversaw the registration system, subordinated public health to the needs of agriculture. Toxicological concerns served only to safeguard agricultural workers.

Finally, in 1972 the French government acknowledged public concern and reorganized the registration system to give greater weight to non-agricultural government ministries. Nevertheless, agricultural pressure prevented any prohibition of existing chemicals and ensured the approval of more. It would not be fair, they said, to prohibit in France what was available to foreign competitors. Similar to the situation in the United States and elsewhere, the registration system remained a method to protect agricultural interests and chemical companies while giving the public the impression of safety and security and suppressing a potentially powerful political issue.



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Why Europe responded differently from the United States

[Many believe] that many of the practices condemned by Miss Carson do not go on in this country on anything like the same scale as in the United States of America, of which she was writing. We have nothing like the savage spraying of roadside and railside verges ... nor anything like the massive eradication campaigns such as those against the gypsy moth and fire ant she describes. Indeed, the pattern of our agriculture, with its relatively small fields, numerous hedges, and varied crops, does not lend itself to similar scales on anything like the same scale as she describes.

— Viscount Hailsham, British Lord President of the Council and Minister for Science
(Parliamentary Debates 1963, 1142–43)

If *Silent Spring* catalyzed the formation of the American environmental movement, it played no such role in Europe. Why not? After all, fallout from nuclear weapons testing and the thalidomide tragedy worried Europeans as well. Both featured prominently in the debate in the House of Lords, for example, and European debate over radiation echoed arguments across the Atlantic.

Europeans simply didn't want to believe that *Silent Spring* applied to them. As Lord Douglas of Barloch noted, they "may say that these things can happen in the United States, but they cannot happen here" (*Parliamentary Debates*, 1118). The French Commission for Studying the Influence of Treatments on Biocenoses (i.e., ecosystems) declared that "the facts referred to by Miss R. Carson are probably true for the USA," but that "the belief that European, particularly French, legislation does not protect populations from the dangers of excessive use of insecticides is wrong" (Jas 2007, 3). A reviewer for the Seville newspaper *A B C* commented that it was good that Spain lagged so far behind the United States, because Spain did not yet have the problem of pesticides and could learn from American mistakes (Andalucia ed., 19 May 1963, 62).

In Denmark, which today like Germany enjoys a very "Green" reputation, the press took note of the American controversy over *Silent Spring* but concluded that this was mainly an American problem. In Italy and Spain, reaction was similar. Response to *Silent Spring* resembled a pebble dropped in a pond: a small splash, a few ripples, and it was gone. With few exceptions, public and governments alike remained complacent.

In Eastern Europe, communist countries generally regarded these environmental problems as products of capitalism.

That almost all of Carson's examples occurred in the United States certainly could give the impression that Americans were exceptionally prone to carelessly overuse of pesticides. Hailsham was correct, too, that European agriculture did not generally have American agriculture's large farms, extensive monocultures, and consequent need for pesticides. Airplanes did not spray European fields with chemicals, except in East Germany. Europeans regarded American "savage spraying" and "massive eradication campaigns" against insect pests like the gypsy moth and fire ant with considerable skepticism. Moreover, Europeans tended to trust their governments more than Americans do and had confidence in scientists to protect them from harmful environmental chemicals.



The wreck of the Torrey Canyon on a reef off Cornwall, the first major oil spill from new supertankers, shocked Europeans into the realization that they faced the same environmental problems as the United States. All rights reserved © Mariners Museum.

This faith that "it can't happen here" would be shattered as environmental disasters shocked each European country and launched the movements that grew into Green parties. In 1967 the oil tanker *Torrey Canyon* struck a reef and spilled oil that fouled hundreds of miles of rugged, beautiful, and ecologically fragile coastline in southwestern Britain and northwestern France. Some historians date the beginning of environmental concern in those countries to that event. In Italy, a chemical plant explosion in 1976 released a cloud of the toxic chemical dioxin into the community of Seveso and first raised widespread concern in Italy about chemicals in the environment. Concerns about the dangers of nuclear power stirred up an antinuclear movement across Western Europe. The 1986 accident at the Chernobyl nuclear power plant, which spread radiation across Europe, horrified all Europeans. The anti-nuclear power movement and the Chernobyl disaster gave tremendous momentum to the speedy rise of Green parties throughout the continent a quarter century after *Silent Spring*.

The reviewer for the Seville newspaper *A B C* had point, when he commented that lack of progress had spared Spain the problems of *Silent Spring*. The same was true of Finland, Ireland, and many other European nations. All of them lagged behind the huge economic growth of the United States after World War II.

The economic lag had political consequences that affected the way Europeans responded to *Silent Spring*. By 1962 the US had enjoyed a decade and a half of economic growth and prosperity. Americans now felt secure enough to criticize the problems that this growth had caused. The mounting chorus of social criticism included David Riesman's *The Lonely Crowd* (1950); William H. White, Jr.'s *The Organization Man* (1956); Vance

Packard's trio *The Hidden Persuaders* (1957), *The Status Seekers* (1959), and *The Waste Makers* (1960); and John Kenneth Galbraith's *The Affluent Society* (1958). Carson, who quoted *The Waste Makers*, placed *Silent Spring* in this company by stating that the problem of pesticide overuse "is an accompaniment of our modern way of life" (Carson, 1962, 9).

Since Europe was still emerging from the destruction of the war, Europeans were not yet ready to turn from celebration of the economic miracle to criticism of its environmental, social, and cultural price. In America, environmentalism helped prepare the way for radical cultural, social, and political criticism, while in Europe, the political situation was reversed: environmentalism benefited from political radicalism. Many of leaders and participants in the protests and radical movements of the 1960s later moved into the Green movement: French Greens Brice Lalonde, Serge Moscovici, and Antoine Waechter; French and German Green Daniel Cohn-Bendit, who long was banned from France for his revolutionary activity in 1968; and German Greens Petra Kelly and Joschka Fischer.



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- <http://www.environmentandsociety.org/exhibitions/silent-spring/legacy-rachel-carsons-silent-spring>

Legacy of Rachel Carson's *Silent Spring*

For me, personally, *Silent Spring* had a profound impact. It was one of the books we read at home at my mother's insistence and then discussed around the dinner table... . Rachel Carson was one of the reasons why I became so conscious of the environment and so involved with environmental issues. Her example inspired me to write *Earth in the Balance*... . Her picture hangs on my office wall among those of political leaders... . Carson has had as much or more effect on me than any of them, and perhaps than all of them together.

—Vice President Al Gore, "Introduction," *Silent Spring* (1994 ed.), xiii

By any measure, *Silent Spring* succeeded beyond anyone's imagining. By the end of the twentieth century, it took its place on lists of the best books of the century or even of all time. Random House's Modern Library released a much-talked-about list of the 100 Best Nonfiction books of the twentieth century, on which Carson's book was ranked #5. *Discover Magazine* put *Silent Spring* on its "25 Greatest Science Books of All Time" in 2006. Britain's *Guardian* newspaper in 2010 listed it among the "Fifty Books to Change the World." In 2011, *Time* magazine put it on the All-TIME 100 Nonfiction Books list. Even the conservative *National Review* listed *Silent Spring* on its "100 Best Nonfiction Books of the Twentieth Century."

More immediately, *Silent Spring* affected government policy. Every one of the toxic chemicals named in the book was either banned or severely restricted in the United States by 1975. Farm chemicals, pest-control chemicals, and household chemicals undergo much greater scrutiny, regulation, and control than before Rachel Carson published the book, and the chemicals allowed are less deadly and used in smaller amounts.



Logo of the USDA Organic program. [CC BY-NC-SA 3.0](#).



Logo of the National Organic program. [CC BY-NC-SA 3.0](#).

In a broader sense and the longer term, *Silent Spring* helped create a change of attitude. It called into question a major item of faith in the twentieth century, the authority of scientific experts. The public had trusted such experts to exert greater control over nature, down even to the atom whose power was made to seem so miraculous, and make a happier, healthier, wealthier society. Carson showed how experts trusted their own

creations too greatly and how they themselves were implicated in a vast complex of private and public interests designed to produce profits for chemical manufacturers and the growing agribusiness sector.

Most importantly *Silent Spring* launched the modern global environmental movement. The ecological interconnections between nature and human society that it described went far beyond the limited concerns of the conservation movement about conserving soils, forests, water, and other natural resources. A generation of Americans found their perspectives widened and their activism inspired by Carson's powerful work. Although never such a key text in environmental movements outside the United States, *Silent Spring* did play a role in creating an environmental awareness. It remains in print in many languages, after fifty years still inspiring readers across the globe.

No better evidence of Carson's significance exists than the Rachel Carson Center for Environment and Society. The decision in 2009 to name an international center for scholarly study after Carson acknowledged the prominence and respect she still commands around the world and also recognized the power her writing has had to move people and bring about change.

The natural and organic foods movement was small and ridiculed in 1962. In the decades to come, the movement grew until even large supermarket chains and Walmart stores now carry organic food. Carson's concerns about dangerous substances in food gradually became mainstream concerns. Organic foods constitute a large and growing sector of today's agricultural production.



The European Organic seal. [CC BY-NC-SA 3.0](#).



The Brazil Organic seal. [CC BY-NC-SA 3.0](#).

Nevertheless, the issues raised in *Silent Spring* continue to haunt the contemporary world. Worry about chemicals in water and food has expanded beyond those used in agriculture. In the 1990s, concern grew about endocrine disruptors, which are otherwise harmless substances that mimic hormones and disrupt health. In 2007, questions were raised about bisphenol A (BPA), a compound released by certain plastics into food and by many treated cans into canned food. Of particular concern was BPA released by plastic baby bottles. Canada, the European Union, Japan and the United States immediately acted to restrict exposure to BPA, especially in baby bottles.

The increase of endocrine disruptors in food and water has raised suspicions that they are responsible for a multitude of perplexing new problems: genital deformities in increasing numbers of newborn boys, earlier puberty in girls, declining sperm count in adult males, rising rates of prostate and testicular cancer, and problems in sexual development and reproduction. Other possible health effects include abnormal brain development, obesity, and diabetes.

In addition, endocrine disruptors like BPA enter the environment and disrupt fish and wildlife. Scientists have documented numerous effects. Studies have found male fish with female sex characteristics in the Potomac River, Florida alligators with stunted genitals, and amphibians with extra legs, all due to concentrations of endocrine disruptors in water.

The world today is awash in a sea of chemicals never before seen in nature. No one really knows the long-term effects of these substances, individually or in unpredictable combination, either on human health or on the health of the ecosystems upon which we, and all life, depend. The chemicals are not the same as the ones Carson indicted in *Silent Spring*, yet they are produced, sold, and used on an unsuspecting public by the same interconnected complex of profit-driven companies and government authorities. Carson's words in her "Fable for Tomorrow" still apply, as if we lived in the future that she imagined: "No witchcraft, no enemy action" had produced our "stricken world. The people had done it themselves" (Carson 1962, 3).



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For further reading

Introduction: An very good general account of the reaction to *Silent Spring*, both domestic and foreign, is Frank Graham, Jr., *Since Silent Spring* (Boston: Houghton Mifflin, 1970). Linda Lear's excellent biography, *Rachel Carson: Witness for Nature* (New York: Holt, 1997), is essential reading. Lear also maintains a useful [website](#). Several chapters also cover the reception and impact of *Silent Spring*. Other excellent resources include biographies by Paul Brooks, who was Carson's editor and friend, entitled *The House of Life: Rachel Carson at Work* (Boston: Houghton Mifflin, 1972 and 1989), and Mark Lytle's recent *The Gentle Subversive: Rachel Carson, Silent Spring, and the Rise of the Environmental Movement* (New York: Oxford University Press, 2007). The basic story of *Silent Spring* and its impact have been well known since Graham's book. I have relied on Graham, Lear, and Brooks, especially for the American sections, supplemented by the works described below. The sections on *Silent Spring* in popular culture, television, literature, and the arts are largely based on primary research and appear for the first time in this online exhibition. Original research also supports the sections on *Silent Spring*'s reception and impact outside the United States.

See also Priscilla Coit Murphy, *What a Book Can Do: The Publication and Reception of Silent Spring* (Amherst: University of Massachusetts Press, 2005) and Gino J. Marco, Robert M. Hollingworth, and William Durham, eds., *Silent Spring Revisited* (Washington, D.C.: American Chemical Society, 1987).

US government response: For the response of the United States Department of Agriculture, see Linda J. Lear, "Bombshell in Beltsville: The USDA and the Challenge of Silent Spring," *Agricultural History* 66 (2) (Spring 1992): 151–70. See also "Testimony of Steve Owens, Assistant Administrator, Office of Prevention, Pesticides and Toxic Substances, U.S. Environmental Protection Agency, before the Subcommittee on Commerce, Trade and Consumer Protection, Committee on Energy & Commerce, U.S. House of Representatives, November 17, 2009," [View PDF](#)

Industrial and agricultural interests fight back: See R. H. White-Stevens, Address, The Synthetic Organic Chemical Manufacturers' Association, New York City, April 9, 1963, cited in Roland C. Clement, "The Pesticides Controversy," *Boston College Environmental Affairs Law Review* 2 (1972): 445–468 ([View Source](#), accessed 24 February 2012).

Public reaction in the United States: On the reasons for the positive public response in the United States to *Silent Spring*, see Ralph H. Lutts, "Chemical Fallout: Rachel Carson's *Silent Spring*, Radioactive Fallout, and the Environmental Movement," *Environmental Review* 9 (3) (Autumn 1985): 210–25. Other perspectives are explored in Carol B. Gartner, "When Science Writing Becomes Literary Art: The Success of *Silent Spring*,"; and Craig Waddell, "The Reception of *Silent Spring*: An Introduction," both in Craig Waddell, ed., *And No Birds Sing: Rhetorical Analyses of Rachel Carson's Silent Spring* (Carbondale: Southern Illinois University Press, 2000); and M. Jimmie Killingsworth and Jacqueline S. Palmer, "Millennial Ecology: The Apocalyptic Narrative from *Silent Spring* to *Global Warming*," in Carl G. Herndle and Stuart C. Brown, eds., *Green Culture: Environmental Rhetoric in Contemporary America* (Madison: University of Wisconsin Press, 1996).

Gender: Two excellent articles that focus on attacks on Carson as a woman are Michael B. Smith, "'Silence, Miss Carson!' Science, Gender, and the Reception of *Silent Spring*," *Feminist Studies* 27 (3) (Autumn 2001): 733–52;

and Maril Hazlett, "'Woman vs. Man vs. Bugs': Gender and Popular Ecology in Early Reactions to *Silent Spring*," *Environmental History* 9 (4) (Oct. 2004): 701–29.

Literature: Terry Tempest Williams's essay is in Peter Matthiessen, ed., *Courage for the Earth: Writers, Scientists, and Activists Celebrate the Life and Writing of Rachel Carson* (Boston: Houghton Mifflin, 2007), 129–46.

For Carson's influence on nature writing, see Simmons B. Buntin interview with Alison Hawthorne Deming, *Terrain.org: A Journal of the Built & Natural Environments* 26 (2010), [View Source](#), accessed 1 February 2012; Kathleen Dean Moore, "The Truth of the Barnacles: Rachel Carson and the Moral Significance of Wonder," in Lisa H. Sideris and Kathleen Dean Moore, eds., *Rachel Carson: Legacy and Challenge* (Albany: State University of New York Press, 2008), 267–80; Kathleen Dean Moore, *Wild Comfort: The Solace of Nature* (Boston: Trumpeter Books, 2010); Scott Russell Sanders, *A Conservationist Manifesto* (Bloomington: Indiana University Press, 2009); and Rebecca Solnit, *Storming the Gates of Paradise: Landscapes for Politics* (Berkeley: University of California Press, 2007).

The works that this section discusses are: Marjorie Agosin, "Rachel Carson," in *Melodious Women*, trans. Monica Bruno Galmazzi (Pittsburgh: Latin American Literary Review Press, 1998), 21–22; John Burnside and Maurice Riordan, eds., *Wild Reckoning: An Anthology Provoked by Rachel Carson's Silent Spring* (London: Calouste Gulbenkian Foundation, 2004), 13–22; Danielle Devereaux, "Letter to the New Yorker"; "First Lady of the Environment"; "Rachel Carson Comes to my House for Tea"; "Memo in which Miss Carson Gives the Poet Advice on Being a Spinster"; and "Untitled," *ARC Poetry Magazine* 64 (Summer 2010) 13; 66 (Summer 2011): 46, 47, 48, and 49; and Anthony Walton, "In the Rachel Carson Wildlife Refuge, Thinking of Rachel Carson," *Ecotone* 3.2 (2008), anthologized in Camille T. Dungy, ed., *Black Nature: Four Centuries of African American Nature Poetry* (Athens: University of Georgia Press, 2009), 54; and Robert Wrigley, "The Gift of the Bear," in *Wild Reckoning: An Anthology Provoked by Rachel Carson's Silent Spring*, eds. John Burnside and Maurice Riordan (London: Calouste Gulbenkian Foundation, 2004), 189–91.

See also Jorn Ake, "Rachel Carson," *The Circle Line* (Omaha: Backwaters Press, 2009), 9; and Elizabeth Robinson, "Rachel Carson Talks to a Blank Sky," *Interim* 29 (2011).

Art: Alexis Rockman is described as an "artist-activist" in Thomas Lovejoy, "From Chameleons in the Curtains to *Manifest Destiny*," in Joanna Marsh, ed., *Alexis Rockman: A Fable for Tomorrow* (Washington, D.C.: Smithsonian American Art Museum, 2010), which is the catalog for the exhibition by the same name. Mark Dion talks about the "Museum of Poison" in "Mark Dion," in Judith Olch Richards, ed., *Inside the Studio: Two Decades with Artists in New York* (New York: Independent Curators International, 2004), 242–245.

Sweden: A good work on the Scandinavian response is Andrew Jamison, Ron Eyerman, and Jacqueline Cramer, *The Making of the New Environmental Consciousness: A Comparative Study of the Environmental Movements in Sweden, Denmark and the Netherlands* (Edinburgh: Edinburgh University Press, 1990). See also Martin Kylhammar, *Nils Dahlbeck: En Berättelse om Svensk Natur och Naturvårdshistoria* (Stockholm: Carlsson, 1992); and Harri Siiskonen, "Silent Spring and the Nordic Agricultural Magazines," *Scandinavian Economic History Review* 50 (1) (2002): 7–23. Also useful is Lennart J. Lundqvist, *Environmental Policies in Canada, Sweden, and*

the United States: A Comparative Overview (Beverly Hills, CA: Sage, 1974).

Britain: John Sheail, *An Environmental History of Twentieth-Century Britain* (Basingstoke, Hampshire: Palgrave, 2002) is an excellent source. See also G. R. Conway, D. G. R. Gilbert, and J. N. Pretty, "Pesticides in the UK: Science, Policy and the Public," in D. J. L. Harding, ed., *Britain Since 'Silent Spring': An Update on the Ecological Effects of Agricultural Pesticides in the UK* (London: Institute of Biology, 1988). For a detailed study, see John Sheail, *Pesticides and Nature Conservation: The British Experience 1950–1975* (Oxford: Clarendon Press, 1985).

The remarkable debate in the House of Lords can be found in *Parliamentary Debates (Hansard): House of Lords*, vol. 247 (1963), 1118–220.

Netherlands: A good account is in Andrew Jamison, Ron Eyerman, and Jacqueline Cramer, *The Making of the New Environmental Consciousness: A Comparative Study of the Environmental Movements in Sweden, Denmark and the Netherlands*. See also C. J. Briejèr, *Zilveren Sluiers en Verborgene Gevaren: Chemische Preparaten die het Leven Bedreigen* (Leiden: Sijthoff, 1968), ch. 12; Jacqueline Cramer, *De Groene Golf: Geschiedenis en Toekomst van de Milieubeweging* (Utrecht: Jan van Arkel, 1989); and J. L. van Zanden and S. W. Versteegen, *Groene Geschiedenis van Nederland* (Utrecht: Het Spectrum, 1993).

Germany: There is a large literature on the rise of Germany environmental concerns and of the Green movement. See Winfried Kösters, *Umwelt-Politik: Themen, Funktionen, Zuständigkeiten* (Munich: Olzog, 1997); Kai F. Hünemörder, *Die Frühgeschichte der globalen Umweltkrise und die Formierung der deutschen Umweltpolitik, 1950–1973* (Stuttgart, 2003); Horst Mewes, "A Brief History of the German Green Party," in Margit Mayer and John Ely, eds., *The German Greens: Paradox between Movement and Party* (Philadelphia: Temple University Press, 1998); Ernst U. von Weizsäcker, *Earth Politics* (London: Zed, 1994); Colin Riordan, ed., *Green Thought in German Culture: Historical and Contemporary Perspectives* (Cardiff: University of Wales Press, 1997); Jean Jacob, *Histoire de l'Écologie Politique* (Paris: Albin Michel, 1999); Gayil Talshir, *The Political Ideology of Green Parties: From the Politics of Nature to Redefining the Nature of Politics* (Houndmills: Palgrave, 2002); and Anna Branwell, *Ecology in the 20th Century: A History* (New Haven: Yale University Press, 1989), 219.

For a sample of *Christ und Welt* coverage, see H. Merbitz, "Wenn der Acker zur Fabrik wird: Eine Diskussion über unbekannte Gefahren des chemischen Pflanzenschutzes," *Christ und Welt* 16 (9) (10 May 1963): 30; Richard Kaufmann, "Sind sie wirklich harmlos? Die Frage der Pflanzenschutzmittel im Licht eines amerikanischen Regierungsberichts," *Christ und Welt* 16 (23) (7 June 1963): 21; and Hans-J. Wasserburger, "Das Gift im Boden: Schädlingsbekämpfung muß 'integriert' erfolgen," *Christ und Welt* 16 (46) (15 November 1963): 22.

France: The French reaction to *Silent Spring* has been analyzed by Nathalie Jas, "Public Health and Pesticide Regulation in France Before and After *Silent Spring*," *History and Technology* 23 (4) (2007): 369–88. Other histories of the French environmental movement take little notice of the book. An excellent history of French environmentalism is Michael Bess, *The Light-Green Society: Ecology and Technological Modernity in France, 1960–2000* (Chicago: University of Chicago Press, 2003). See also Brendan Prendiville, *Environmental Politics*

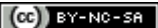
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Mark Stoll




Exhibition author Mark Stoll in front of the *Aldo Leopold Shack*. © Mark Harvey.

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