GREEN LEGACY

Rachel Carson's "Silent Spring" was an unsolicited warning label on the pesticide industry 50 years ago, but the words of the landmark book still ring true for individuals and groups dedicated to creating a healthier environment. by Natalie Bell

Erich Hartmann/Magnum Photos

"There was once a town in the heart of America where all life seemed to live in harmony with its surroundings. The town lay in the midst of a checkerboard of prosperous farms, with fields of grain and hillsides of orchards where, in spring, white clouds of bloom drifted above the green fields . . .

"Then a strange blight crept over the area and everything began to change. Some evil spell had settled on the community: mysterious maladies swept the flocks of chickens; the cattle and sheep sickened and died. Everywhere was a shadow of death. The farmers spoke of much illness among their families . . .

"No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world. The people had done it themselves . . ."

The story of this town, a work of fiction crafted by the late biologist Rachel Carson, drew readers deeper into her book "Silent Spring." Its sobering scientific account of the impact of pesticides helped fuel environmental activism five decades ago.

The community shaped in Carson's imagination was similar in some ways to her hometown of Springdale, Pa., where, as a girl, the late conservation pioneer watched the machinery of industry grow up with her, plowing over her beloved natural world and erecting factories that produced the type of chemicals that would later be the topics of her environmental warnings to the public. The view from Carson's childhood bedroom window reveals a power plant; a residential grid of homes with weed-free, manicured lawns; and cars speeding down suburban streets.

Born in 1907 to a family of modest means, Carson was a gifted writer and naturalist from a young age. One of her most important classrooms was the family's 63-acre property in Springdale, northeast of Pittsburgh, where she observed the earth's processes—and human actions that threatened them—firsthand.

"She saw the industrialization of the city happen before her eyes and understood, at a very visceral level, what happened to the natural world when industrialization took place," says Patricia DeMarco, director of Chatham University's Rachel Carson Institute and former executive director of the Rachel Carson Homestead.

Natalie Bell is a former Heinz Endowments intern and recent graduate of the University of Pittsburgh. This is her first story for h.

(Top) Rachel Carson's love of nature was cultivated in her childhood home, a five- room clapboard farmhouse in Springdale, a borough northeast of Pittsburgh. The house, which originally stood on 63 acres overlooking the Allegheny River, was taken over by the Rachel Carson Homestead Association in 1975 and is undergoing restoration. (Bottom) Carson as a child, center, spent time on the "beach" of the Allegheny River near her home with her sister Marian, left, and brother Robert, right.

This year marks the 50th anniversary of "Silent Spring." The landmark 1962 treatise not only raised public awareness about the dangers of chemical pesticides, particularly dichloro-diphenyltrichloroethane or DDT, but also angered chemical industry giants and some scientists. Although she faced a backlash then—and still has some critics today—Carson and "Silent Spring" are credited by many as inspiring grass-roots efforts that later helped push for the creation of the Environmental Protection Agency (EPA).

Yet many do not know that Carson, who died in 1964, has been called the mother of the modern environmental movement. Her admirers, including biographer Linda Lear, lament that one of their biggest struggles is getting people to realize that Carson existed at all—what Lear calls the "Rachel who?" question.

Despite this history amnesia, philanthropies such as The Heinz Endowments and other organizations around the world have been supporting environmental initiatives that continue Carson's legacy of protecting human health and nature. And as the first female biologist with the federal Fish and Wildlife Service, Carson has been a role model for a number of women today whose careers have focused on science and the environment.

"Rachel Carson is my beloved ancestor intellectually and my mentor because of the work that she did. She protected the environment for future generations," says Carolyn Raffensperger, an environmental lawyer and former archeologist. She now serves as executive director of the Science & Environmental Health Network, a North American consortium of environmental organizations.

"Rachel Carson was very much an inspiration to me… Many times I was the only woman in the room," says DeMarco, who spent three decades in the male-dominated energy and electric fields. "You just have to stand on your principles, be very professional, check everything three times, be really sure of your facts, and then present them with confidence. I think she was a tremendous model for women because she did blaze a trail in a field that was not traditionally the property of women."

Because of the impact of Carson's life and work, Caren Glotfelty, senior director of the Endowments' Environment Program, says, more people need to be educated about her and her message. One way the Endowments supports such efforts is by funding legacy organizations with environment-related missions. The Rachel Carson Institute, an environmental education center north of Pittsburgh, has been awarded $500,000, and the Rachel Carson Homestead Association, which is undergoing a restructuring, has received $800,000 from the foundation.

"We didn't fund them just because of the name," says Glotfelty. "We have funded those groups for the work that they do, which is essentially trying to carry on the legacy of what Rachel would have done if she were alive today. And either by the issues they focus on or by the kind of work that they do, they try to educate the general public about a range of issues in the spirit of Rachel Carson."

Other legacy organizations include the Rachel Carson Center for Environment and Society in Munich, Germany, which supports research in the field of international environmental studies; and the Rachel Carson Council in Silver Spring, Md., which promotes awareness about the harmful effects of pesticides and advocates for environmentally safer, alternative pest-control methods. Several nature conservation sites in different parts of the country also are named after Carson.

In addition to the Science & Environmental Health Network, groups that share Carson's mission if not her name include Women for a Healthy Environment, a nonprofit that focuses on raising awareness about the connections between the environment and the health of women and their families. The organization was formed in response to women's health conferences in Pittsburgh sponsored by Endowments Chairman Teresa Heinz, the Endowments and Magee-Womens Hospital of UPMC.

"[Carson's] early research on pesticides has been a cornerstone of Women for a Healthy Environment's focus on environmental risk factors that impact our health … and our environment," says Executive Director Michelle Naccarati-Chapkis. "We continue to turn to science, as Rachel Carson did, to inform and educate the public about toxins, as well as provide information about choosing healthier products and following practices that lead to a more sustainable way of life for us and future generations. It's interesting—we still deal with many of the same challenges that Rachel Carson encountered over 50 years ago."

Exploring her rural surroundings as she grew up, Carson learned more about the cycles of nature in her studies at the Pennsylvania College for Women, now Chatham University; the Woods Hole Marine Biological Laboratory in Massachusetts; and Johns Hopkins University. Following the completion of her master's degree in zoology at Johns Hopkins, she worked as a

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Courtesy of Beinecke Rare Book and Manuscript Library, Yale University

RACHEL CARSON'S LEGACY extends beyond her writings on pesticides and includes her influence on broad areas such as nature conservation, and environmental health, research and journalism.

biologist at the U.S. Fish and Wildlife Service, where she also was a writer and editor. She left in 1952 to write full-time.

Carson's research occurred during a period when DDT marketing was common. A 1947 black-and-white ad in Women's Day magazine, for example, promoted Disney-decorated, DDT-infused wallpaper by showing a smiling woman doting on her baby in a crib under the bold text, "Protect your children against disease-carrying insects!"

One of the reasons that "Silent Spring" and Carson's other New York Times best-sellers "Under the Sea-Wind," "The Sea Around Us," and "The Edge of the Sea" grabbed people's attention is that they provided something novel at the time: public science. Her eloquent and colloquial style of writing—evident in "Silent Spring's" apocalyptic opening about the harmful impact of pesticides on the fictional town—enabled the general population to understand facts and ideas once reserved for scientists.

"She wrote science for the public because she could, and she could make it accessible to the public in this beautiful, compelling prose. Her speeches are the same way," says biographer Lear. "She was not academic. She talked to the public, and she was accessible to the public . . . There were people whom I interviewed who would weep telling me about what they thought when they read 'The Sea Around Us' or 'The Edge of the Sea,' and how they would take their 'Edge of the Sea' to the seashore with them and walk up and down, and what it meant to them."

But not everyone was impressed.

Although she had the support of her peers in the field, others described her as a "hysterical woman" when "Silent Spring" was published. Chemistry industry trade groups and agricultural journals printed attacks against Carson and the book. Lear says that some scientists "went ballistic" over her weaving a fable to communicate her research findings to the public.

" 'What kind of a scientist is this that's going to start with these stories? They didn't happen; they're not true. This is not fact, this is fiction,' " mimics Lear about the complaints. "So they thought the whole book is fiction, but the public loved it. And that's why the New Yorker [serialized it.]"

Carson testified before Congress in 1963 and called for public policy changes to protect human health and the environment. The next year, she died after a long struggle with breast cancer. But her request for a broad review of chemical pesticides is credited with launching the campaign that led to the U.S. ban on DDT in 1972. Her work also is regarded as contributing to the evolving grass-roots movement that during this period called for the creation of the EPA, established in 1970 to keep vigilance over environmental and health issues.

" 'Silent Spring' had a tremendous cumulative impact over the decade of the '60s, [though] its initial publication didn't," says William D. Ruckelshaus, the first and fifth director of the EPA, who first arrived in Washington, D.C., in the late 1960s as an assistant attorney general. "But like a lot of seminal books, it built over a period of years as more and more people read it and recommended it to others. Its influence was not the sole cause but one of the principal causes of the environmental movement."

Pollution in the United States has been dramatically reduced because of the agency, adds Ruckelshaus. So it's important to look at the EPA and the environmental movement's progress based on what conditions would be like without their efforts—a crucial point given that new pesticides have been developed that degrade more quickly than DDT, but environmental scientists still identify them as toxic. Also, DDT continues to be used in other countries to fight malaria.

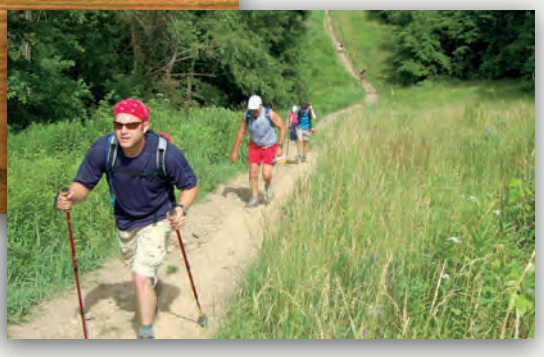
Pittsburgh's history with pollution echoes this dilemma. In the late 1940s into the 1950s, a group of civic and government leaders headed the charge to reduce the amount of steel industry soot and smoke plaguing the city. But the Endowments' Glotfelty says the region's still-problematic air pollution—caused today by microscopic particles—requires a Carson-like awareness crusade. Too many residents tend to ignore the issue because it's not as visible as it once was and because Pittsburgh is now often cited for its green buildings and spaces. Following Carson's example in its use of 21st-century storytelling, the Endowments last year initiated the Breathe Project, a major air quality campaign that employs online and new media resources as well as traditional communications efforts to raise awareness of the challenge.

Meanwhile, organizations with more direct connections to Carson also are working to promote environmental consciousness in the region.

The Rachel Carson Institute, which is housed at an extension campus of Carson's alma mater, Chatham University, recently conducted a two-day symposium to celebrate the 50th anniversary of "Silent Spring." The conference provided a forum for discussing the impact of the book on environmental writing and wildlife conservation. The sessions also assessed the future of conservation and biodiversity preservation. Participants included

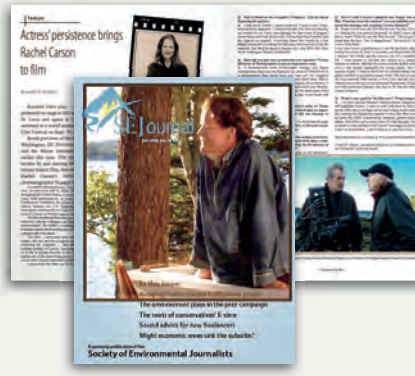
Establishing Parks and Trails
The Rachel Carson National Wildlife Refuge in Wells, Maine, below left, and the Rachel Carson Trail in southwestern Pennsylvania, below right, were named in honor of the famed biologist because of her support of conservation. Each June, for the past 16 years, the Rachel Carson Trail Challenge has attracted participants willing to take on a 34-mile-long, one-day endurance hike on the rugged trail.

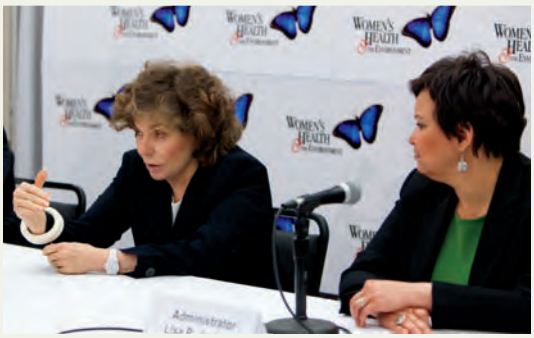
Saving Pelicans The National Wildlife Federation credits "Silent Spring" with helping to save American pelicans because the book led to the end of using DDT and other pesticides in the country that were determined to be detrimental to these large water birds.



Attila Horvath

Informing the Public
In recognition of Carson's influential writing on environmental science, |the Society of Environmental Journalists awards the Rachel Carson Environmental Book Award to authors whose work sheds light on practices that threaten the health of people or nature. Recipients receive $10,000 and marble bookends bearing names of the contest, book and author. The organization updates its members on environment-related events, including Rachel Carson commemorations, through its SEJournal newsletter.

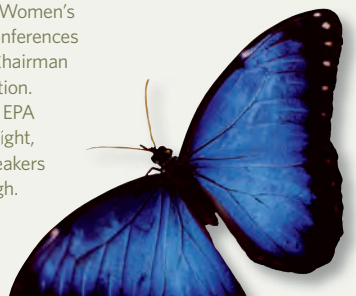




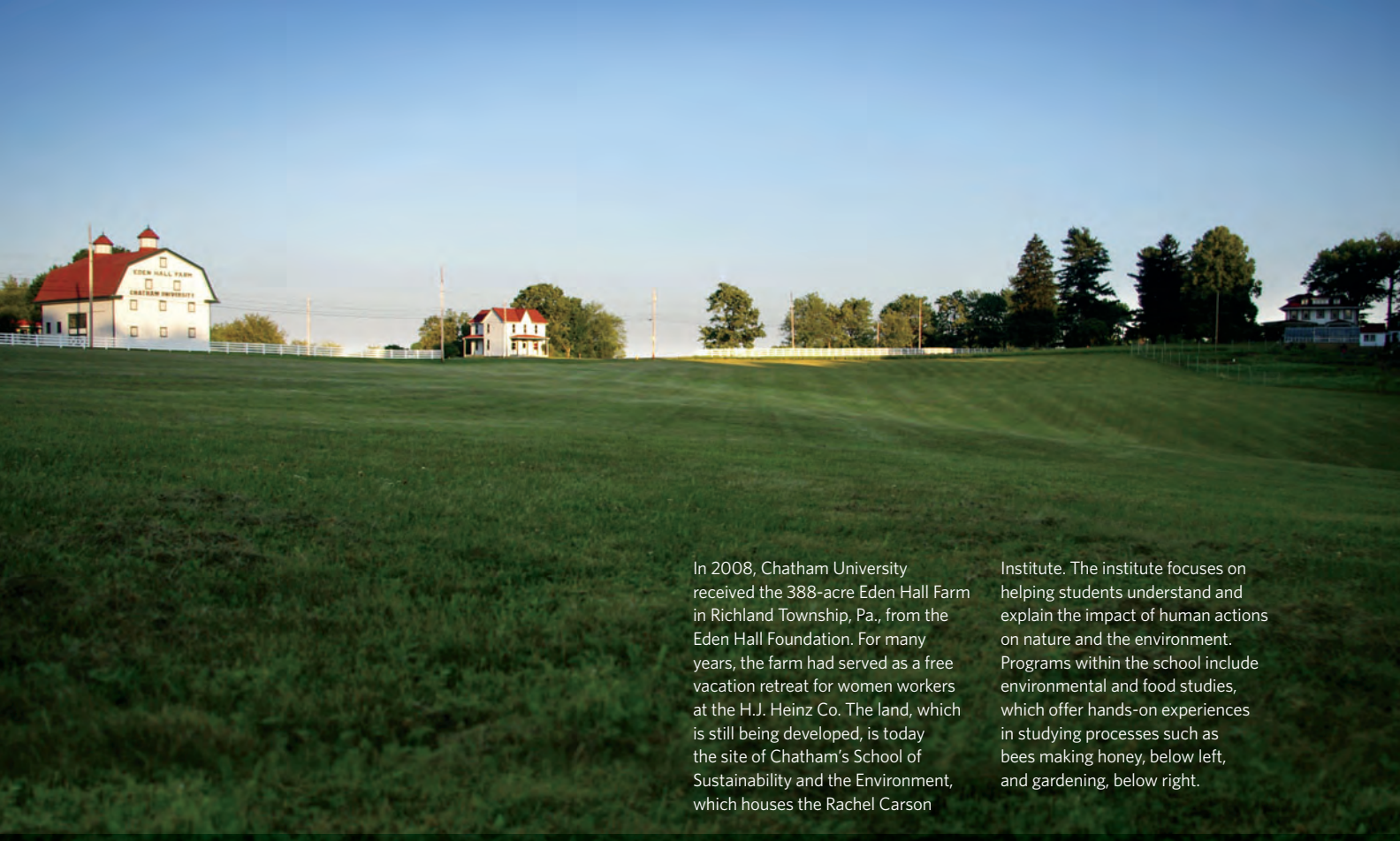
Joshua Franzos

Teaching a New Generation
The international impact of Carson's work is illustrated by initiatives such as the Rachel Carson Center in Munich, Germany. The center was established to further research and discussion in the field of international environmental studies and to strengthen the role of the humanities in political and scientific debates about the environment. Fellows and staff also explore the environment through activities such as the Alpine excursion, below.

Educating Women on Health
Carson's research on the risks of pesticides helped to establish environmental health principles used today by the federal Environmental Protection Agency and organizations that have participated in the Women's Health & the Environment conferences supported by Endowments Chairman Teresa Heinz and the foundation. In 2010, Mrs. Heinz, left, and EPA Administrator Lisa Jackson, right, were among the featured speakers at the conference in Pittsburgh.

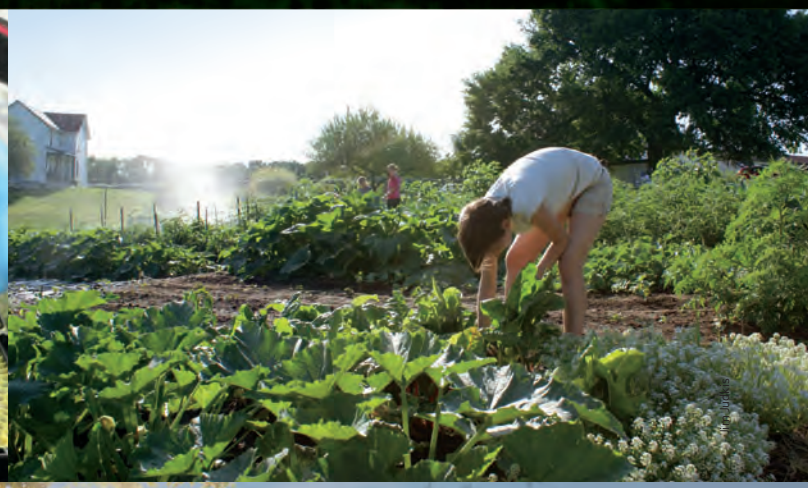


Courtesy Rachel Carson Center



In 2008, Chatham University received the 388-acre Eden Hall Farm in Richland Township, Pa., from the Eden Hall Foundation. For many years, the farm had served as a free vacation retreat for women workers at the H.J. Heinz Co. The land, which is still being developed, is today the site of Chatham's School of Sustainability and the Environment, which houses the Rachel Carson Institute. The institute focuses on helping students understand and explain the impact of human actions on nature and the environment. Programs within the school include environmental and food studies, which offer hands-on experiences in studying processes such as bees making honey, below left, and gardening, below right.

EDEN HALL CAMPUS (NOW)

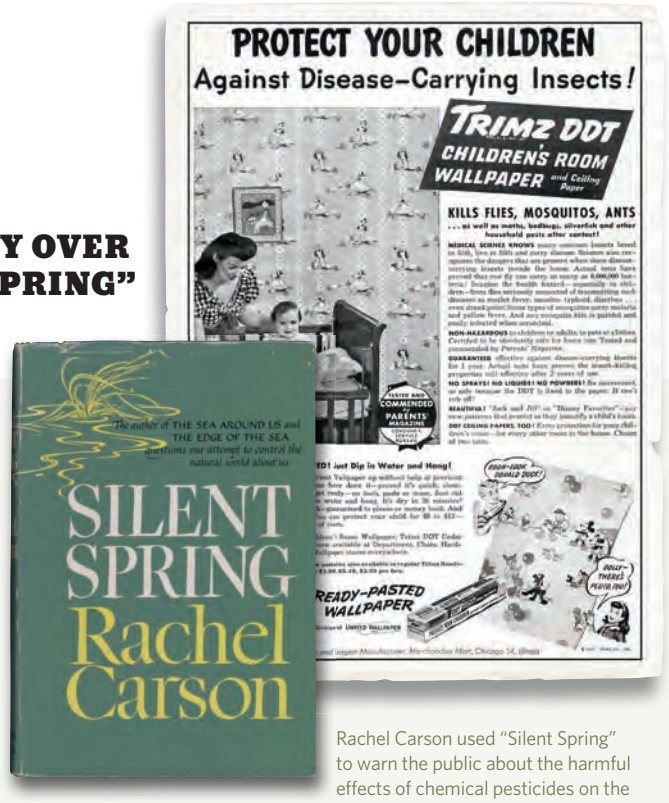


(IN THE FUTURE)

Plans include construction of the EcoCenter, which will serve as a welcome center and location for events, meetings and student gatherings. As this artist's rendering indicates, the EcoCenter will reuse iconic barn structures and will serve as an anchor for the campus.

Photos courtesy of Chatham University

THE CONTROVERSY OVER "SILENT SPRING"



Rachel Carson used "Silent Spring" to warn the public about the harmful effects of chemical pesticides on the environment and human health. Pesticides such as DDT were not only used on plants but also in homes in forms such as DDT-treated wallpaper.

some of the country's most respected environmental writing and science experts.

At Chatham University, a tree-canopied oasis in the midst of Pittsburgh's trendy Shadyside neighborhood, some of the stately brick buildings where Carson spent much of her time are being retrofitted with green technology. They include Woodland Hall, Carson's college residence, where the addition of solar panels is expected to cut natural gas consumption by 50 to 75 percent.

After the university received Eden Hall Farm in Richland Township as a gift from the Eden Hall Foundation in 2008, Chatham President Esther Barazzone and staff decided to transform the 388-acre expanse into the self-sustaining home of the School of Sustainability and the Environment. The Rachel Carson Institute is housed there so students can receive education, research and outreach opportunities that address the relationships among environmental, economic and social issues.

Berkebile Nelson Immenschuh McDowell Architects, headquartered in Kansas City, Mo., is building structures around native plants on the rural property, with the goal of zero-net water and zero-net energy use. Elevators will be meter-monitored, and water in public restrooms will be cold to save energy. Among the landscape details are a food forest and a water purification system designed by Mithun, Seattle-based architects.

"If we're taking a course on sustainability agriculture, it is so beneficial to have land to actually grow on as opposed to maybe just having a lecture course on how to grow organically," says Arielle Burlett, who participated in the campus-design process and was in the School of Sustainability and the Environment's first class. "We can take what we learn in the classroom and then really apply it out there, test it, and see what actually works and what to do for the future."

In addition to the eco-conscious efforts on campus in the spirit of Carson, university staff and students have sought more public recognition of the environmentalist. In 2004, for example, Barazzone crusaded to have Carson's moniker attached to one of Pittsburgh's "Three Sisters" bridges that link the city's Downtown to its North Side. Two of the bridges already honored pop artist Andy Warhol and Pirates baseball legend Roberto Clemente. The Rachel Carson Bridge was dedicated on April 22, 2006.

The boxy, white clapboard farmhouse that was Carson's childhood home is being stabilized in preparation for future renovation, and the Rachel Carson Homestead Association is undergoing restructuring. In the past, it promoted its Rachel Carson Legacy Challenge that asked local groups, businesses and government organizations to promise to be more environmentally conscious. Because of a shortage in resources, the association's board is re-examining the vision for the homestead. Its goals include preserving the building and making it available in ways that continue to educate the public about Carson's life, work and the environmental issues that were important to her.

Carson died before seeing her overwhelming impact, but organizations and individuals carry on her legacy of protecting and preserving the natural world for current and future generations.

"I often take an opportunity to read from Rachel Carson's works each year; it's a powerful motivation and reminder of why I love the work I do each day," says Women for a Healthy Environment's Naccarati-Chapkis. "One of her quotes I enjoy most is this: *We stand now where two roads diverge. But unlike the roads in Robert Frost's familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road—the one less traveled by—offers our last, our only chance to reach a destination that assures the preservation of the earth.*" h