

# Rachel Carson and Woods Hole

by Jim Hain



The dedication of a statue of Rachel Carson is scheduled for Sunday, 14 July 2013, in the Waterfront Park in Woods Hole. While Carson is often described as a pioneer of the environmental movement, there is more to the story—a story that has a strong Woods Hole connection. The statue depicts a point in time in Carson’s career, and is based on a photograph taken in 1951. At this point, a major chapter in her life was ending and a new one beginning. As part of the former, the connection between Rachel Carson and the village of Woods Hole began two decades earlier. The story, like her life, is complex and multi-layered. There is both a history and a message in her life and in the statue—for all of us—as well as for the next generations.

## *Arrival in Woods Hole*

Carson graduated *magna cum laude* from the Pennsylvania College for Women (now Chatham University) in June, 1929. Earlier that spring, she had received a scholarship and a seat as a beginning investigator at the Marine Biological Laboratory (MBL) in Woods Hole for six weeks that summer. On an evening in late July, Carson headed for New York harbor and the Colonial Line passenger boat bound for New Bedford. At 05:45 a.m., she changed boats in New Bedford for the 16-mile trip across Buzzards Bay. In a letter of 4 August 1929 to college classmate Dorothy Thompson, Carson wrote, “The trip over to Woods Hole was glorious in the early morning, which was clear and cold. The sea got

rough enough to make walking across the deck a real problem. My impressions of Woods Hole have been very favorable. The town is much more attractive than I’d expected to find it. One can’t walk very far in any direction without running into water. The main laboratory is a rather imposing brick building which seems to be all one could desire in every detail. The library is splendid. I could find enough there to do all summer. They seem to have everything.”

When Carson arrived, the MBL consisted of approximately four buildings: Old Main, the newer L-shaped red-brick Crane and Lillie building, the smaller Supply Department, and the Candle House. Carson’s seat was in one of the laboratories in Crane. She and college friend Mary Frye, who had arrived several days earlier and was a student in the invertebrate zoology course, roomed at the apartment house across the street from the laboratory. The two women took their meals at the MBL Mess, which had linen tablecloths and white-coated waiters.

During the course of six weeks, Carson spent hours in the library immersing herself in the scientific literature, dissection at the research table, dialogues with others, and long walks exploring the shore and tide pools. She apparently went out for a day trip on the Bureau of Fisheries vessel as well as trips aboard the MBL’s collecting boat. There was swimming, beach parties, picnics, and tennis. In almost every respect, it was a typical Woods Hole summer.

In another letter to Dorothy Thompson, dated 25 August 1929, Carson writes, “Woods Hole is really a delightful place to biologize, and I can see it would be very easy to acquire the habit of coming back every summer.”

But Carson’s weeks of study at the MBL introduced some uncertainty. She struggled with the direction of her work. She found herself working on preserved specimens when she was surrounded by an alluring, living marine environment. This quandary would re-appear some years later at Johns Hopkins.

*“Woods Hole is really a delightful place to biologize, and I can see it would be very easy to acquire the habit of coming back every summer.”* — R. Carson

In mid-September, Carson and Frye boarded a through-train from Boston to Pittsburgh. Carson spent several weeks at home in Springdale, just north of Pittsburgh. At the end of September, she left to begin her graduate studies at Johns Hopkins University in Baltimore.

For the next two summers, she remained in the Baltimore area, but in other years she returned to Woods Hole for weeks at a time. Later, she was elected a member of the MBL Corporation and served from 1952 until her death in 1964.

#### *Graduate School and Government Work*

Graduate school presented its challenges. Carson struggled with her research. Faced with chronic financial and family issues, she became a half-time student at Hopkins in her second year, and worked as a lab assistant in the medical school. In June, 1932, she submitted a mostly descriptive 100-page

master’s thesis featuring drawings and photographs of biological sections and received an M.A. Planning to continue as a Ph.D. student at Johns Hopkins, in August, 1932, she spent three weeks in Woods Hole working on embryological studies of teleosts. These bony fish were preserved specimens whose study was inconsistent with the emerging direction of modern biology.

Although she was teaching at the University of Maryland, debts from her undergraduate education and family finances were overwhelming. She dropped out of Johns Hopkins as a doctoral candidate in 1934.

Letters of recommendation from her professors at Johns Hopkins expressed confidence in her teaching ability, but were lukewarm about a future in scientific research. Her life, however, was about to change once more. Perhaps unexpectedly, a government job was on the horizon.

In late 1935, Carson took a part-time job, two days a week, in downtown Washington D.C. writing radio scripts for the Bureau of Fisheries. While she had previously written a number of magazine articles, there is no doubt that this position was a turning point. Shortly thereafter, in July 1936, she was appointed to a full-time position at the bureau.

#### *Carson’s Writing*

During her 16 years of government service, Carson edited technical reports and wrote speeches, press releases, and brochures. Noteworthy were the *Conservation in Action* series that described the natural

1929

## MARINE BIOLOGICAL LABORATORY

## Application for Research Accommodations

1. Name (with degrees) *Rachel L. Carson, A.B. (June, 1929)*
2. Institution represented *Pennsylvania College for Women, Pittsburg*
3. Official position .....
4. Mail address *Penna. College for Women, Pittsburg, Penna.*
5. Status at Woods Hole:
- |  |    |   |
|--|----|---|
| (a) Independent investigator                                   | in | (a) Botany                                      |
| <input checked="" type="checkbox"/> (b) Beginning investigator |    | (b) Physiology                                  |
| (c) Research assistant   |    | <input checked="" type="checkbox"/> (c) Zoology |
|  |    | (d) .....                                       |
6. If beginning investigator, name of person under whose direction work will be done .....
- Preferably Dr. Carvell Crane*
7. Dates between which accommodations are desired *Approximately June 20 to Aug 21*  
*or Aug 1 to Sept 30*
8. Type of accommodation desired
- |                                    |            |
|------------------------------------|------------|
| (a) Laboratory in brick buildings  | (\$200.00) |
| (b) Laboratory in wooden buildings | (\$100.00) |
| (c) Study room                     | (\$100.00) |
| (d) <u>Research table</u>          | (\$ 50.00) |
| (e) .....                          |            |
9. Room to be shared with .....
- (Include research assistants)
10. Fee to be paid by *Penna. College for Women*
11. General nature of research problem *Detailed anatomical study of the brain and cranial nerves of the turtle. Comparisons to be made with at least one other reptilian form.*
12. General equipment required:
- |   |
|---|
| (a) Fresh water   |
| (b) Salt water  |
| (c) Dark room   |
| (d) Chemical bench and hood   |
| (e) Electric current other than 110 volts D. C.                     |
| (f) <i>Only usual laboratory facilities for direction</i>           |
| (g) <i>[Possibly chemicals and glassware for histological work]</i> |
13. Special apparatus required .....

(Over)

The Application for Research Accommodations at the Marine Biological Laboratory in Woods Hole, filled out by Rachel Carson and submitted in the spring of 1929. The second page of the application shows that she arrived on August 1 and departed on September 11. (Courtesy of the Marine Biological Laboratory Archives.)

history of several national wildlife refuges. The two-and-a-half years she worked on the series included extensive travel. The resulting booklets were based on careful field research and written in an engaging style. Carson introduced the role of ecology. Her government writing also included research and accounts of red tides, and significantly, early concerns about DDT.

While a government employee, Carson maintained an active free-lance career. She achieved a balance between her government job and the associated professional research and free-lance writing. At some level, the government research and writing was re-purposed into popular newspaper and magazine articles. This feature-writing produced a small additional income. It appears that this was both agreeable to, and encouraged by, her supervisors.

Her first newspaper story was a piece on Chesapeake Bay shad fishing, which ran in the *Baltimore Sun* on 1 March 1936. Often, she wrote about places she had never been and things she had never seen. This continued when, in April 1945, Carson's descriptive report on the Marine Studios at Marineland in Florida (an oceanarium that duplicated the undersea landscape) ran in a London magazine called *Transatlantic*, which specialized in stories from America. The oceanarium's curator, Arthur McBride, provided photographs and information, and answered questions via correspondence.

Another turning point in her life came when she wrote an essay titled "Undersea," which appeared in the September 1937 *Atlantic Monthly*. Her picture of the ocean was based on research into a young and evolving body of knowledge. The piece was well-received, and from it the idea of writing a book

emerged. Working evenings and weekends, Carson continued to write features while at the same time working on her book. A 1940 trip to Woods Hole provided additional perspective and library research. *Under the Sea Wind* was published in November, 1941. The book received little notice.

Her position provided opportunities for travel. In August, 1939 she spent 10 days at the Fisheries lab in Woods Hole, returned in 1940, and again in 1949. She also made trips to the Fisheries lab in North Carolina, said to be the "sister lab" to Woods Hole.

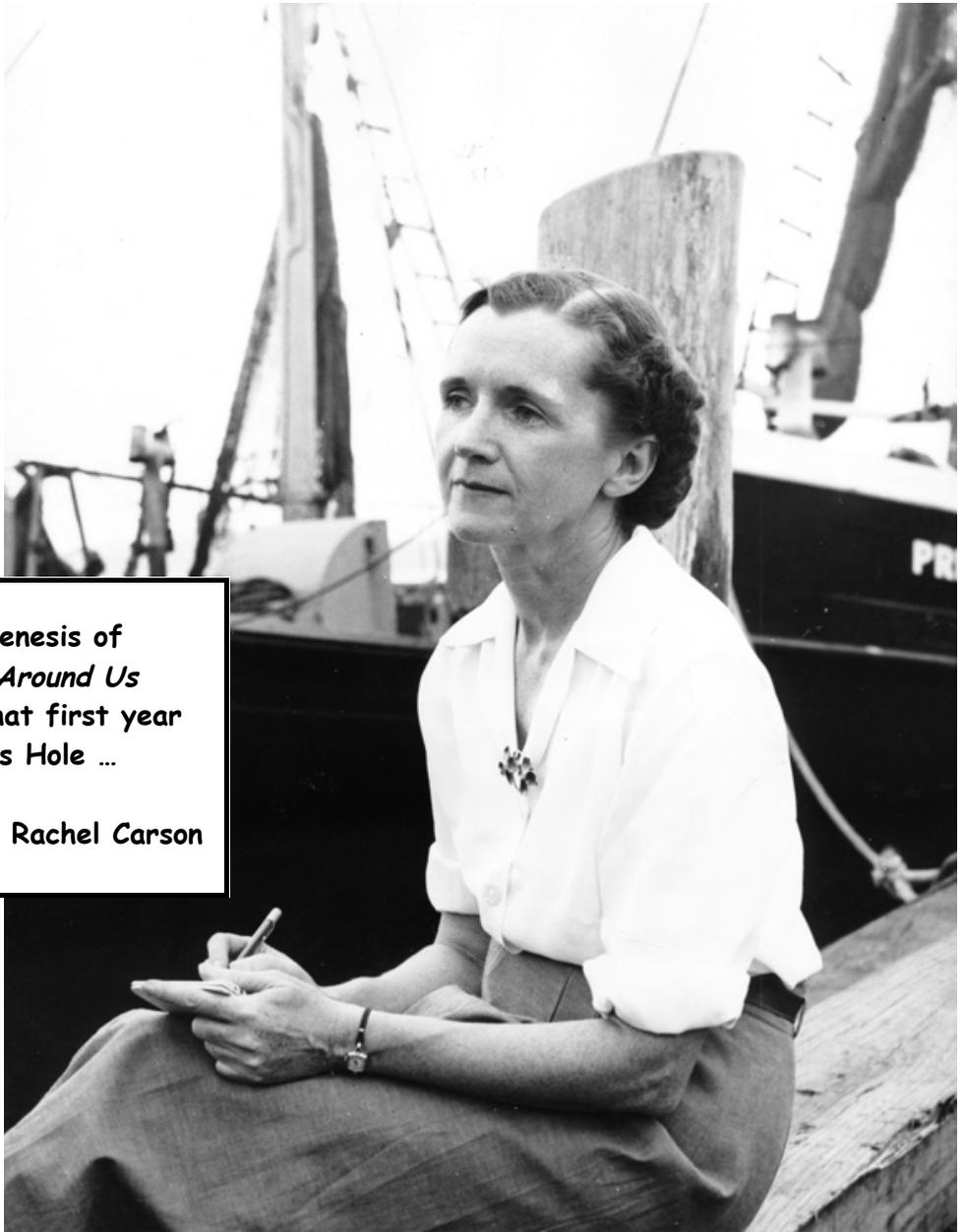
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Work began on a second book on the natural history of the ocean that incorporated the latest oceanographic research. Requests for articles and bibliographic searches were submitted to the Interior Department's reference library. At this time, Carson also took on an agent, Marie Rodell.

Carson's practice was to submit book chapters as they developed for publication in magazines, providing milestones for her work, advance publicity for the book, and some income. As is common to most writers, rejection was a fact of life. Chapters for the new book were rejected by 15 magazines before eventually being serialized in *The New Yorker*.



**"... the genesis of  
*The Sea Around Us*  
belongs to that first year  
in Woods Hole ...**

**Rachel Carson**

Rachel Carson in 1951 on the dock near the Steamship authority and Sam Cahoon's Fish Market, just after the publication of her best-selling book, *The Sea Around Us*. The photograph was taken when her publishers wanted a new publicity photo. Edwin L. Gray, who had a portrait studio on Main Street in Falmouth, drove to Woods Hole and took this iconic photo. The statue placed in July 2013 is modeled after this photo. (Courtesy of the Lear/Carson collection, Connecticut College.)

From the start, Carson proved to be a careful businesswoman for every aspect of becoming an author; no detail was too small for her attention. Throughout her career there were skirmishes with publishers, collaborators, and competitors. And, like all writers trying to make a living, Carson was always thinking about her next project and how to finance it. In interviews and speeches, Carson observed that, “writing is a lonely, hard, and slogging occupation.”

As Carson worked on her books, she used her government vacation time and on one occasion arranged for a four-month leave without pay. As the publication date for her second book approached, and literary and financial success appeared likely, Carson applied for a year’s leave of absence from her position with the Fish and Wildlife Service. *The Sea Around Us* was published on 2 July 1951. Now on leave, the subsequent year was devoted to book promotion and work on her third book. On 3 June 1952, the day after her year’s leave-of-absence ended, believing that she could now support herself and her family, and wishing to devote herself to writing, she resigned her position with government service.

Carson’s strength initially lay in her ability to turn government research into popular natural history features for newspapers. Her writing evolved into a style of translating science into lucid, flowing, and engaging articles and books for the public. She was a good journalist. In July of 1951, with the new book as a major success, Carson was a literary celebrity. Within a few days of the publication party, she left for several weeks in Woods Hole.

### *Helpers, Mentors, and Networking*

Throughout her career, Carson had help. Her mother, Maria Carson, typed correspondence, manuscripts, and book chapters. A major influence was

Professor Mary Scott Skinker, the head of the biology department and a friend from Carson’s undergraduate career at the Pennsylvania College for Women. Skinker molded Carson’s ecological consciousness and nurtured her talent. In a threads-of-life connection, Skinker was at the MBL in the summer of 1928 studying protozoology. She wrote enthusiastically about the MBL and sent clippings from the Woods Hole newsletter to whet Carson’s appetite for study at the MBL. By 1929, Skinker was a government employee, and likely she helped arrange for Carson to meet Elmer Higgins, the acting director of the U.S. Bureau of Fisheries, Division of Scientific Inquiry, in the Department of Commerce. Elmer Higgins subsequently hired Carson for a government job.

Carson was also a master at networking. She had a way of finding the experts in a particular field to obtain the information or advice she needed. As her work progressed, she developed a network of scientists, naturalists, and nature writers. Over the years, numerous collaborators, colleagues, illustrators, editors, reviewers, agents, and friends were helpful to her.

### *A Transition*

When the Edwin Gray photograph was taken, Carson’s focus was still on the sea. Jacques Cousteau had begun research diving and filming from the *Calypso*, and in 1953 published his first book, *The Silent World*. Carson was a public figure with speaking engagements, awards, and book tours. Beneath the public image, she had health problems that included metastasizing breast cancer. She bought property and built a cottage in Maine. Summers were spent in Maine and the visits to Woods Hole decreased. From the cottage in Maine and her home in Silver Spring, Maryland, she continued to write. The third sea book, *The Edge of the Sea*, was published on 26

Carson's bronze statue gazing out to sea from Woods Hole provides a living message from a real person who was not silent and thereby helped change the world. The message is also about the present and the future. It calls us to take our own parts in studying nature and protecting the environment.

October 1955. Events would again change her life and her next book was a departure from the preceding ones. But her books about the sea had established her style, her method of careful research, her status, and her financial position, which would all play a role in what was to come.

In 1945, the U.S. Fish and Wildlife Service began discovering the danger to wildlife from DDT. That same year the United States exploded three nuclear devices—one in New Mexico and two in Japan. In the years following, during the 1950s and early '60s, a number of countries conducted atmospheric tests of nuclear weapons. By the test ban of August 1963, more than 500 nuclear devices had been exploded above ground. Radioactive fallout that included strontium 90 showed up in milk. DDT was also discovered in milk. Carson recognized that pesticides and radioactive fallout—dispersed and persistent—contaminated the environment, not only briefly in isolated places, but over long stretches of time throughout the global ecosystem.

The DDT issue became more visible. During 1957, a lawsuit sought to halt aerial spraying of DDT on Long Island. The citizen protest in turn led Olga Huckins, a writer and editor from Duxbury, Massachusetts, to protest aerial spraying on a bird sanctuary and private property. Correspondence between Huckins and Carson, and an increasing level of concern, led to newspaper and magazine articles. Research at Michigan State University showed that sprayed DDT entered the food chain, initiated a

toxic cycle, and resulted in a die-off and “silencing” of local bird populations. The issue of pesticide poisons and the effect on the environment and human health ultimately led to Carson's pivotal and best-known book, *Silent Spring*. As she had done previously, her new book was based on thorough research and a synthesis of widely scattered but ultimately compelling facts. Also, as with her other books, sections of the book were previewed in magazines, including *The New Yorker*. *Silent Spring* was published 27 September 1962.

The book received support and criticism. The author was both praised and vilified. Carson and *Silent Spring* were central to a White House Conference on Conservation in 1962, subject to Congressional hearings, and caught the attention of President John Kennedy and his Science Advisory Committee. Carson's speaking engagements and a CBS Reports television program elevated public concern over pesticide hazards. A love-hate relationship developed between the public, government, and industry as exemplified in a book review in *Time Magazine* in September 1962, the day after the book's publication. The review described: “Miss Carson as frightening and arousing her readers,” and cautioned that, “even with her mystical attachment to nature . . . her emotional and inaccurate outburst in *Silent Spring* may do harm by alarming the non-technical public, while doing no good for the things that she loves.” Years later, in March, 1999, *Time* included her in “The 100 Greatest Scientists and Thinkers of the Century.”

A link between pesticides and cancer was being made. Ironically, as the book was in its final stages, and in the years following, Carson's cancer was metastasizing. The radiation treatments were debilitating. She also had heart problems. This, plus continuing family problems, led biographer Linda Lear to write: "No area of her life was without complication, and no situation was simple." She died of a heart attack on August 14, 1964 at age 56.

In the years following the publication of *Silent Spring*, there was a broadening environmental consciousness leading to the first Earth Day on April 22, 1970.

### *The Statue and the Message(s)*

Carson's bronze statue gazing out to sea from Woods Hole provides a living message from a real person who was not silent and thereby helped change the world. The message is also about the present and the future. It calls us to take our own parts in studying nature and protecting the environment.

### **About the Author**

Jim Hain was born in Pennsylvania, came to Woods Hole, and found a career with the sea.

### **Acknowledgments**

In this article I have drawn from the published works listed at right. Copies of two original letters were provided by the Rachel Carson Council, Silver Spring, Maryland. Copies of applications for summer investigator visits to the MBL were provided by the MBL. Thanks also to Linda Despres and Susan Wigley of the Northeast Fisheries Science Center for assistance in preparation of this article, and to Susan VanHoek, whose review improved the manuscript.

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