

WHAT A BOOK CAN DO

Rachel Carson's *Silent Spring* Launches the
Environmental Movement

Julienne Sauer

Junior Division
Individual Exhibit

Last year was the 50th anniversary of the publication of Rachel Carson's book *Silent Spring*. I became interested in her work after watching the film *American Experience: Rachel Carson's Silent Spring*. I went to my local library and checked out her book. It was captivating because of her writing style and use of metaphors and examples to convey the science behind her topic. Our concern about chemicals in the environment is still very relevant today. This is a topic that I care about and wanted to research in depth. The publication of *Silent Spring* was a critical turning point which launched the modern environmental movement fitting this year's NHD theme perfectly.

I conducted my research by first visiting my local library to check out books on the life of Rachel Carson and the impact of *Silent Spring*. I created a list of key words related to my topic in order to search the Internet. I accessed Yale University's Rachel Carson Papers Collection online and it provided me with many primary documents about her life and the writing of her book. I conducted email interviews with representatives from different organizations that continue her cause today. I also visited websites of the Environmental Protection Agency, National Archives, Library of Congress, Getty Images, and other digital archives to obtain photos and primary documents relevant to my research.

My topic is presented as an exhibit because it is the best way to portray how *Silent Spring* was an influential turning point that launched the modern environmental movement. First I read primary and secondary sources to find material for my exhibit. On the left panel I present information on how the Industrial Revolution affected our environment. Then I present a summary of early nature writers, information about their books, and their motivation. Then I continue with information about DDT, and how it was used by the public. Finally the left panel concludes with a summary about Rachel

Carson, her background, and her environmental concerns. The middle panel includes my thesis, and details about the turning point the publication of *Silent Spring*. Then I continue with an analysis of why the book was so influential and motivated the public to action. The top right panel displays the reaction of the chemical industry and scientists opposing Rachel Carson's findings and their accusations. Then I continue by showing how the public reactions to her book brought about positive change. Then I present the legacy of Rachel Carson and *Silent Spring* followed by how the book influences us today.

Rachel Carson's *Silent Spring* fits the theme of *Turning Points in History: People, Ideas, and Events* perfectly. It was a controversial book which began a public dialogue on whether we should question the use of chemicals in our environment. The publication of *Silent Spring* was a ground breaking turning point that alerted the public to the dangers of uncontrolled use of chemical pesticides, catalyzed revolutionary changes in our laws, and launched the modern environmental movement.

(495 words)

BIBLIOGRAPHY

PRIMARY SOURCES

"Aldo Leopold." 1944. Photographic Collection, Aldo Leopold Foundation, Baraboo. <http://www.aldoleopold.org/AldoLeopold/archives.shtml> (accessed March 9, 2013).

This website sponsored by the Aldo Leopold Foundation provided me with his photograph featured in my exhibit. I also learned about his legacy, his books, and how the foundation carries on his belief that individuals should cooperate with nature and each other for the mutual benefit of all.

"Bracing for Broadside," *Chemical Week*, October 6, 1962, p. 23. <http://www1.umn.edu/ships/pesticides/library/CW10-6-62.pdf> (accessed November 5, 2012)

This article helped me understand the steps that the chemical industry was considering to repair the damage done to their public image due to the publication of *Silent Spring*.

"Bridgeport Canal Showing Waste Deposit alongside of March Packing Company and Pig Gut Picked up below Flowing Outlet." Photograph, 1958. Historical Photo Collection, Philadelphia Water Department, Philadelphia. <http://philawater.pastperfect-online> (accessed March 3, 2013).

This photograph was used in my exhibit to show the pollution that was dumped into rivers that were also used for city drinking water. It clearly shows that pollution was prominent in the environment.

Briggs, Shirley A. *Basic Guide to Pesticides: Their Characteristics and Hazards*. Washington: Hemisphere Pub., 1992.

This book published by the Rachel Carson Council helped me understand the mission it has today to inform the public of pesticide use. It is primary source because it is relevant to my research on how *Silent Spring's* legacy continues to influence our life today through their work. It is displayed at the bottom of my exhibit.

Carson, Rachel. "A Reporter at Large - Silent Spring." *The New Yorker*, June 16, 1962, 35-99.

This is the original *New Yorker* magazine that featured the first article of the series published for *Silent Spring*. The article occupied most of the magazine and was surrounded by many distracting articles. It helped me understand how publishing the initial chapters of the book in a magazine brought attention to the subject and created a buzz before its publication. It is featured at the bottom of my exhibit.

Carson, Rachel. "A Reporter at Large - Silent Spring." *The New Yorker*, June 23, 1962, 31-89.

This is the original *New Yorker* magazine that featured the second article of the series published for *Silent Spring*. It is featured at the bottom of my exhibit.

Carson, Rachel. "A Reporter at Large - Silent Spring." *The New Yorker*, June 30, 1962, 35-67.

This is the original *New Yorker* magazine that featured the third and final article of the series published for *Silent Spring*. It is featured at the bottom of my exhibit.

Carson, Rachel. "Series I. Writings. Silent Spring. Manuscripts. Early Drafts. Chapter III: Holograph and Typescript, Corrected, with Carbons." Yale University, New Haven. <http://brbl-dl.library.yale.edu/vufind/Record/3667894> (Accessed February 8, 2013).

This is the original copy of a typed manuscript page from her book with original corrections made by hand. It was interesting to see how she made corrections and on this particular page crossed out statements that she could not support with scientific evidence.

Carson, Rachel. *Silent Spring*. Boston: Houghton Mifflin, 1962.

This is the book which my exhibit is based on. I obtained President Gore's quote from a 50th year edition of this book, in which he wrote a special introduction in honor of Rachel Carson. I also obtained from this book other quotes for my exhibit.

Carson, Rachel. "Statement of Rachel Carson before the Subcommittee on Reorganization and International Organizations of the Committee on Government Operations, June 4, 1963." *Rachel Carson Council*.
<http://www.rachelcarsoncouncil.org/index.php?page=rachel-carson-s-statement-before-congress-1963> (accessed September, 3, 2012).

This is the statement made by Rachel Carson in front of the Federal government subcommittee supporting the findings of her book. It helped me understand her motivation for writing the book, her proposed actions to solve the problem, and why this issue was important to her.

Carson, Rachel. *Under the Sea-wind: A Naturalist's Picture of Ocean Life*. New York: Oxford University Press, 1952.

This book was the first one that Rachel Carson published. It tells the story of the sea creatures and birds that dwell in and around the waters along North America's eastern coast and their balanced ecosystem. I used the cover page in my exhibit.

"CBS News Reporter Severeid Interviews Carson about Silent Spring." Photograph, 1962. CBS Photo Archive, CBS, New York.
<http://www.gettyimages.com/detail/news-photo/american-biologist-and-natural-history-writer-rachel-carson-news-photo/52227680> (accessed February 14, 2013).

This photograph was used in my exhibit to portray the special interview Rachel Carson had with CBS News Reporter Severeid. It was a crucial interview because the public had the opportunity to meet Rachel Carson and find out firsthand her reasons for writing *Silent Spring*.

Cottam, Clarence. "A Noisy Reaction to Silent Spring." *Sierra Club Bulletin* (January 1963): 4-5, 14-15.

This 1963 article overviews the reaction that *Silent Spring* received and lists in detail the types of criticisms and methods the chemical industry used to attempt to discredit Rachel Carson.

Cottam, Clarence, and Elmer Higgins. *DDT: It's Effect on Fish and Wildlife*. Washington DC: US Department of the Interior, 1946.

This 1947 brochure from the U.S. Department of Interior described in detail the effects of DDT on fish and wildlife. It was shocking to realize that the

information was so well documented years before the publication of *Silent Spring* but the public was unaware of the effects of DDT on their environment.

Countess, J., photographer." Former Vice President Al Gore Addresses the Audience." Photograph, 2004. WireImage, Getty Images. <http://www.gettyimages.com/detail/news-photo/former-vice-president-al-gore-addresses-the-audience-at-the-news-photo/113523644> (accessed March 7, 2013).

This photograph of former Vice President Al Gore was used in my exhibit to display how *Silent Spring* is influencing the current and future generations of environmentalists. I also included in the picture a small caption photo of his bestselling book *An Inconvenient Truth*.

"Cuyahoga River Fire." Photograph, 1952. The Cleveland Memory Project, Cleveland State University Library, Cleveland, OH. <http://www.clevelandmemory.org/press/> (accessed February 13, 2013).

This is the photograph which I used under the Industrial Revolution section to display how the rivers often burned from the polluted waste dumped into them from factories.

Darby, William J. "Silence, Miss Carson." *Chemical & Engineering News* (October 1, 1963): 62-63.

This article written by a professor at Vanderbilt University is in direct response to the publication of *Silent Spring*. It helped me understand in detail the reasons why the book was considered wrong and how the opposition challenged Rachel Carson's scientific foundations.

"The Desolate Year." *Monsanto Magazine*, October 1962, 4-9. <http://www.iseethics.files.wordpress.com/2011/12/monsanto-magazine-1962-the-desolate-year.pdf> (accessed December 6, 2012).

This is the rebuttal story that the chemical industry published to show the public what would happen if pesticides were eliminated. It was written in the similar format as the first chapter in *Silent Spring*. The chemical industry claimed that the world would be overrun by pest if DDT was banned.

Eisenstaedt, Alfred, photographer. "Biologist/author Rachel Carson (C) Holding Camera W. Children & Dog in Woods near Her Home." Photograph, 1962. Time Life Photos, Getty Images. [http://www.gettyimages.com/detail/news-photo/](http://www.gettyimages.com/detail/news-photo/biologist-) biologist-

author-rachel-carson-holding-camera-w-children-news-photo/5 0530483
(accessed April 5, 2013).

This photograph was used in my exhibit to display how Rachel Carson was portrayed in the media as a housewife and radical with no scientific credibility. It was very interesting to learn how the media can affect our perception by the public just with their choice of photographs.

Eisenstaedt, Alfred, photographer. "Rachel Carson at Home W. Pet Cat Moppet." Photograph, 1962. Time Life Photos, Getty Images. <http://www.gettyimages.com/detail/news-photo/biologist-author-rachel-carson-at-home-w-pet-cat-moppet-news-photo/50530482> (accessed January 8, 2013).

This photograph was used in my exhibit to display how Rachel Carson was portrayed in the media. This photograph was used by the chemical industry to influence the public to question her credibility as a scientist.

Hayes, W., W. Durham, and C. Cueto. "The Effect of Known Repeated Oral Doses of Chlorinophenothane (DDT) in Man." *JAMA* 162, no. 9 (October 27, 1956): 890-97. <http://jama.jamanetwork.com/article.aspx?articleid=318695> (Accessed January 4, 2013).

This shocking 1962 report on the effects of DDT on humans helped me learn about DDT and how it affects humans. It was very interesting to read the results of consuming DDT. I also obtained a quote for my exhibit summarizing the findings in regards to repetitive exposure to DDT in humans.

"Henry David Thoreau" Photograph, c1879. The Evolution of the Conservation Movement, 1850-1920, the Library of Congress American Memory, Washington DC. http://memory.loc.gov/cgi-bin/query/D?consvbib:1:/temp/~ammem_cRXf (accessed September 5, 2012).

The original 1861 photograph of Henry Thoreau which I used in my exhibit came from this collection. I also learned about other writers and individuals that contributed to the conservation movement.

Heyneman, Donald. "Silent Spring: Action and Reaction." *The American Biology Teacher* 28, no. 7 (September 1966): 517-24.

This 1966 article reviews the scientific reasoning behind *Silent Spring*. It provided me with details about her scientific arguments and where there were discrepancies and the reasons why.

Konig, George, photographer. "Child Delousing." Photograph, 1945. Hulton Archive, Getty Images.
<http://www.gettyimages.com/detail/news-photo/child-crying-as-she-is-sprayed-with-ddt-delousing-powder-at-news-photo/3418228> (accessed November 6, 2012).

This is a photograph that I used on my exhibit board to display the overuse of the chemical pesticide DDT. It also displays how unaware the public was about the effects of DDT since even young children were exposed to it.

Lee, John M. "Silent Spring Is Now Noisy Summer." *The New York Times*, July 22, 1962.
http://www.proquestk12.com/bulletins/9DEC/images/ProQuest_SilentSpring.pdf (accessed November 2, 2012).

This 1962 New York Time article is featured in my exhibit to display how the public quickly became interested about the effects of chemical pesticide and started to put pressure on the industry.

Leopold, Aldo, and Charles Walsh Schwartz. *A Sand County Almanac. With Other Essays on Conservation from Round River*. New York: Oxford University Press, 1966.

This book helped me understand the motivation why it was important to the writer to respect the land around us and the conservation movement. This book's image is included in my exhibit.

The Library of Congress. "Rachel Carson." America's Story from America's Library.
http://www.americaslibrary.gov/aa/carson/aa_carson_subj.html (accessed November 12, 2012).

This special collection created by the Library of Congress provided me with primary documents for my research and an overview of Rachel Carson's story.

Loomis, Dean. "Plane Spraying Alfalfa Fields in Imperia." Photograph, 1947. Time Life Photos, Getty Images.

<http://www.gettyimages.com/detail/news-photo/plane-spraying-alfalfa-fields-in-imperial-valley-with-ddt-news-photo/50772664> (accessed September 8, 2012).

This 1947 photograph was used in my exhibit to display the most common uses of DDT like the spraying of crop fields.

Mauldin, Bill. "Another Such Victory and I am Undone." Cartoon. *Chicago Sun Times* (Chicago), September 1, 1962.

This 1962 cartoon was used in my exhibit to sum up the simple statement that Rachel Carson was trying to convey to her readers, that we were destroying ourselves with the abundance of pesticides.

Miller, Frank. "Backyard Battle." Cartoon. *Des Moines Register*, (Des Moines), July 26, 1962.

This cartoon in the industry reaction section of my exhibit helped me show the gender bias which existed in the arguments against Rachel Carson's *Silent Spring*.

Milne, Lorus, and Margery Milne. "There's Poison All Around Us Now." Review. *The New York Times Book Review*, September 23, 1962.
<http://www.nytimes.com/books/97/10/05/reviews/carson-spring.html> (accessed October 6, 2012.).

This 1962 book review of *Silent Spring* helped me understand the immediate reaction and dismay of the public towards the chemical industry. It clearly described the shock that everyone felt after having been exposed to these deadly chemicals without their knowledge or permission.

National Archives and Records Administration. <http://www.archives.gov/> (accessed June 07, 2013).

From this online archive I obtained primary documents to enrich my research and to enhance the message of my exhibit.

The New York Times. <http://www.nytimes.com/ref/membercenter/nytarchive.html>.

This online archive enabled me to access 30 newspaper articles from 1940 to 2012 that helped me understand the reaction to the publication of *Silent Spring* both in from the public point of view and from the chemical industry's

perspective. I accessed opinion articles that gave me an insight into the sentiment of that time period which helped me understand how the book motivated the public to start the environmental movement.

NewspaperARCHIVE.com. <http://newspaperarchive.com>.

This online archive helped me accessed 20 articles between the time period of 1940 - 1970 that helped me understand the sentiment before and after the publication of *Silent Spring* and the reaction that the book received.

PENN Salt Manufacturing Company, "DDT is good for Me-e-e!" Advertisement. *TIME*, June 30, 1947.

I used this 1947 advertisement from TIME Magazine to display how widespread the use of DDT was, how misleading the industry's advertisements were and how the public trusted the chemical industry with their safety.

"Rachel Carson." Photograph, 1963. AP Images, New York.

<http://www.apimages.com/metadata/Index/Associated-Press-Domestic-News-Maryland-United-/dd11868560e5da11af9f0014c2589dfb/103/0> (accessed February 7, 2013).

This photograph was used in the legacy section to depict Rachel Carson working in her even during her illness. She pursued her cause till the very end of her life.

"Rachel Carson at a Microscope." Photograph, c1962. Rachel Carson Papers, Yale University, New Haven.

<http://brbdl.library.yale.edu/vufind/Author?author=Carson%2C+Rachel%2C+1907-1964> (accessed February 6, 2013).

This is one of the few photographs from the Rachel Carson Papers Collection that shows her in the scientist role. Most published pictures of her show her as a homemaker, author, or naturalist.

"Photograph of Rachel Carson at a Typewriter." Photograph, undated. Rachel Carson Papers, Yale University, New Haven.

<http://brbdl.library.yale.edu/vufind/Record/3549091> (accessed February 6, 2013).

This photograph was used in my exhibit to show that Rachel Carson was not only a well known scientist but also a writer. It also helped me confirm the type of typewriter she used for her writing.

“President's Science Advisory Committee (PSAC): Pesticides Report *JFKPOF-087-00*.”
John F. Kennedy Presidential Library, Papers of John F. Kennedy, Presidential Papers, May 15, 1963.
<http://www.jfklibrary.org/Asset-Viewer/Archives/JFKPOF-087-003.aspx>
(accessed February 7, 2013).

This is the report which vindicated Rachel Carson and *Silent Spring*. It provided me with information about her findings and future recommendations for changes to current governmental policies in order protect the public from pesticide overuse.

The Library of Congress. <http://www.loc.gov/pictures/>.

From the Prints and Photographs Online Catalog I obtained various photographs and documents that I used to support the presentation of my exhibit and expand my understanding of my topic.

Roosevelt, Theodore. “Opening Address by President.” Speech, *Proceedings of a Conference of Governors*, Washington DC, May 13, 1908.
<http://lcweb4.loc.gov/cgi-bin/query/r?ammem/consrv:@field%28DOCID+@lit%28amrvvgv16div19%29%29> (accessed October 6, 2012).

From President Theodore Roosevelt’s famous speech titled *Conservation as a National Duty*, I obtained his quote to display the changing attitudes towards environment. It was a very inspiring and groundbreaking speech that attempted to change the way the public thought about the environment.

San Francisco Public Library. <http://sfpl.org/>

I visited the San Francisco Library to obtain photographs and primary documents for my exhibit. I also used their online database to obtain different photographs for my exhibit like the beneficial insects photograph in the middle section of my exhibit.

Scherschel, Frank, photographer. "Industrial Detergents in Stream." Photograph, 1960.
Time Life Pictures, Getty Images.
<http://www.gettyimages.com/detail/news-photo/industrial-detergents-in-stream-news-photo/50557688> (accessed December 7, 2012).

This photograph was used in my exhibit to display the pollution in the rivers from factories.

"A Scientist at a Laboratory." Photograph, 1960. Bert Hardy Advertising Archive/Getty Images.

<http://www.gettyimages.com/detail/news-photo/scientist-at-a-laboratory-in-willesden-21st-october-1960-news-photo/103117598> (accessed December 10, 2012)

This photograph was used in the legacy section of my exhibit to show *how Silent Spring* challenged the public's blind trust in scientists.

The Silent Spring of Rachel Carson. 1963. VHS. CBS News Archives CBS Reports, 1963.

http://www.cbsnews.com/8301-3445_162-2714532.html (accessed September 2, 2012).

This was a video of the actual interview that Rachel Carson conducted on CBS after the publication of her book. This CBS documentary helped me witness Rachel Carson's character and integrity. It also helped me understand her motivation to write *Silent Spring*.

Silk, George, photographer. "Kay Heffernon." Photograph, 1948. Time and Life Pictures, Getty Images.

<http://www.gettyimages.com/detail/news-photo/sprayed-from-a-tifa-around-model-kay-heffernon-to-news-photo/50672410> (accessed February 2, 2013).

This shocking photograph of model Kay Heffernon bathed in DDT fumes and eating food was used in my exhibit to display how trusting the public was of DDT.

Silk, George, photographer. "Unhatched Ibis Eggs, Damaged because of DDT Pesticide Poisoning." Photograph, 1970. Time Life Pictures, Getty Images.

<http://www.gettyimages.com/detail/news-photo/unhatched-ibis-eggs-damaged-because-of-ddt-pesticide-news-photo/50539460> (accessed September 4, 2012).

This photograph was used in my exhibit to display the damage on wildlife from DDT residue in the environment. This concerned Rachel Carson and motivated her to write *Silent Spring*. One can see the damage caused to the Ibis eggs which can result in no chicks being born and with time the eventual extinction of this species of bird.

Silk, George, photographer. "Young Ibis Chick Showing Signs of DDT Pesticide Poisoning." Photograph, 1970. Time Life Pictures, Getty Images. <http://www.gettyimages.com/detail/news-photo/young-ibis-chick-showing-signs-of-ddt-pesticide-poisoning-news-photo/50539459> (accessed September 21, 2012.)

This photograph was also used in my exhibit to display the damage to wildlife that DDT was causing. One can see the weakness and underdevelopment of the Ibis chick.

Teale, Edwin Way. "DDT: It Can Be a Boon or a Menace," *Nature Magazine*, March 1945. http://webapps8.dnr.state.mn.us/mcv_pdf/articles/5744_DDT.pdf (accessed November, 10, 2012)

This article helped me understand the facts about DDT and the concerns that were arising even before Silent Spring was published.

"Temporary Basement Fallout Shelter, [Artist's Rendition.]." Photograph, 1957. Photographs of Civil Defense Personnel and Activities. National Archives, College Park, MD. <http://www.archives.gov/education/lessons/fallout-docs/> (accessed January 9, 2013).

This photograph was used in my exhibit to show how Rachel Carson used the hysteria of nuclear fallout during that time period to catch her reader's attention and motivate them to action.

"Theodore Roosevelt and John Muir on Glacier Point, Yosemite Valley, California, in 1903." Photograph, 1903. Prints and Photographs Online Catalog, Library of Congress, Washington DC. <http://www.loc.gov/pictures/item/93503130/> (accessed November 6, 2012).

This photograph obtained from the Library of Congress was used in my exhibit to display how President Roosevelt and John Muir worked together to promote conservation.

Thoreau, Henry D. *Walden; or, Life in the Woods*. Boston: Ticknor and Fields, 1854.

From the *Books that Shaped America* Collection from the Library of Congress I obtained this photo of the introduction page of *Walden*. I also learned why this book was so important and how it influenced American Society.

Three Lions/Stringer, photographer. "Cancer Treatment." Photograph, 1955. Hulton Archive, Getty Images.
<http://www.gettyimages.com/detail/news-photo/banner-at-the-inaugural-earth-day-depicting-the-earth-news-photo/98347187> (accessed January 8, 2013).

This photograph was used in my exhibit to show how Rachel Carson used the current scientific evidence proving that DDT could be causing cancer in humans to motivate her readers to action.

"Toxic Substances Control Act (TSCA)." *United States Environmental Protection Agency*, 2013. <http://www.epa.gov/oecaagct/lasca.html> (accessed February 24, 2013).

The Toxic Substances Control Act of 1976 helped me understand a major victory for Rachel Carson and *Silent Spring* because it banned substances that she deemed dangerous and were mentioned in her book.

"True - The Man's Magazine." Magazine Cover, April 1963. Rachel Carson Papers, Beinecke Digital Collections Yale University, New Haven.
<http://brbl-dl.library.yale.edu/vufind/Record/3535780> (accessed December 9, 2012).

This 1963 magazine cover was used in the legacy section to show how Ms. Carson improved the perception of women in science since her article was main feature in a prominent man's magazine.

"Organic Certification." *U.S. Department of Agriculture*, 2013.
http://www.usda.gov/wps/portal/usda/usdahome?navid=ORGANIC_CERTIFICATION (accessed January 16, 2013).

From this website I obtained information about the organic movement and how *Silent Spring* inspired the program.

U.S. Environmental Protection Agency, 2013. <http://www.epa.gov/>.

From this website I obtained information about the history of the EPA and how *Silent Spring* played a role in its creation. I also obtained primary documents which enhanced my research and were displayed in my exhibit such as the EPA logo.

Wolcott, Marion, photographer. "Copper Mining Section between Ducktown and Copperhill, Tennessee. Fumes from Smelting Copper for Sulfuric Acid Have Destroyed All Vegetation and Eroded Land." Photograph, 1939. Library of Congress Prints & Photographs Division Washington, D.C. <http://www.loc.gov/pictures/item/fsa2000032597/PP/> (accessed March 2, 2013).

This photograph was used in my exhibit to display the destruction mining was causing to the environment during the Industrial Revolution.

SECONDARY SOURCES

"25 Greatest Science Books of All Time." *Discover Magazine*, December 2006. <http://discovermagazine.com/2006/dec/25-greatest-science-books> (accessed January 22, 2013).

This article provided me with information on the reasons why *Silent Spring* is considered one of the top science books. It also provided me with additional sources to expand my research.

Adhikari, Akrish. "Rachel Carson's Silent Spring Encounters and Legacies - Carson Survives through the Silent Spring." *Rachel Carson Center Perspectives*, July 2012, 55-57. <http://www.carsoncenter.unimuenchen.de/download/publications/perspectives> (accessed January 25, 2013).

This article helped me understand the legacy of *Silent Spring* and how Rachel Carson's response gave her even more credibility and gained her support of the public. I also obtained a quote from this article for the legacy section of my exhibit.

"Agricultural Marketing Service - National Organic Program." *Agricultural Marketing Service - National Organic Program*, 2013. <http://www.ams.usda.gov/AMSV1.0/NOP> (accessed February 24, 2013).

From the USDA website I learned about organic food movement and how it was influenced by Rachel Carson and her book. I also obtained the logo of the National Organic Program.

American Experience: Rachel Carson's Silent Spring. DVD. United States: Peace River Films, 2007.

This video from PBS provided me with an overview of Rachel Carson's life, the impact of the publication of *Silent Spring*, and access to a variety of primary and secondary sources.

Baker, Randall. "V600 Capstone Environmental Policy Analysis." *Indiana University*, 2012. <http://classwebs.spea.indiana.edu/baker/v600/> (accessed February 09, 2013).

This college class website helped me understand the reasons why Rachel Carson's book was so successful. It also provided me with a summary of Former Vice President Al Gore's intro to the 50th edition of *Silent Spring*.

Carson, Rachel, Dorothy Freeman, and Martha E. Freeman. *Always, Rachel: The Letters of Rachel Carson and Dorothy Freeman, 1952-1964*. Boston, MA: Beacon Press, 1995.

This book provided me with original correspondence between Rachel Carson and her dear friend Dorothy Freeman. The letters helped me understand who Rachel Carson was as a person. They revealed her personal motivation, her love of nature, and her thoughts on her deadly illness.

"Chimneys Channeling Soot and Other Pollutants." Photograph. University of Liverpool, Liverpool. <http://www.liv.ac.uk/researchintelligence/issue38/hitchhiking.htm> (accessed February 13, 2013).

This photograph was used in my exhibit to portray how polluted the atmosphere was due to the burning of coal at factories.

Costello, Paige E. "Prose and Polarization: Environmental Literature and the Challenges to Constructive Discourse." Thesis, *Claremont College*, 2012. http://scholarship.claremont.edu/cmc_theses/388 (accessed February 16, 2013).

This paper helped me understand the significant contribution of *Silent Spring* to literature and how Rachel Carson's writing style made a difference in conveying here information to the public and motivating them to action.

Doyle, Jack. "Power in the Pen, Silent Spring: 1962." *PopHistoryDig.com*, February 21, 2012. <http://www.pophistorydig.com/?p=11132> (accessed September 5, 2012).

This article provided with a wide variety of additional primary and secondary sources to expand my research and understanding of my topic.

Earth Day Network. <http://www.earthday.org/> (accessed March 06, 2013).

From this website I obtained the photo of the Earth Day 2013 theme. This website also helped me understand the current activities that are taking place to support Earth Day every year.

"Echoes of Silent Spring: 50 Years of Environmental Awareness." *Michigan State University*, 2012. <http://museum.msu.edu/?q=node/686> (accessed January 3, 2013).

This website provided me with an overview of the past 50 years since the publication of *Silent Spring* and with additional primary and secondary sources to enrich my research.

Edwards, J. Gordon. "The Lies of Rachel Carson." *21st Century Science and Technology Magazine*, Summer 1992. <http://www.21stcenturysciencetech.com/articles/summ02/Carson.html> (accessed December 10, 2012).

This article provided me a detailed account of the opposition against *Silent Spring* that still exists today. It went into detail about the discrepancies found in her research and her false assumptions.

"Environmentalists from Past Come Alive." *Montgomery College Chautauqua*, June 15, 2004. <http://www.montgomerycollege.edu/news/04/pr04-58.html> (accessed January 25, 2013).

From this website I obtained the image of the Environmentalists from the Past Come Alive poster which I used in the nature writer section of my exhibit. I used this image which includes Rachel Carson as an introduction of her to the viewer of my exhibit.

Gaan, Narottam. *Relevance of Environment: A Critique on International Relation Theories*. Delhi: Kalpaz Publications, 2005.

This book gave me an overview about the importance of maintaining our environment. It helped me understand the effects of the Industrial Revolution. I also obtained a quote which states that the public was unaware of the damage to the environment which would not be apparent till many years later.

Grey, Sarah. "In Defense of Rachel Carson." *International Socialist Review* 57 (January/February 2008). <http://www.isreview.org/issues/57/feat-rachelcarson.shtml> (accessed January 06, 2013).

This article helped me understand the industry backlash to *Silent Spring* and how she defended herself helped her gain popularity.

Griswold, Eliza. "How Silent Spring Ignited the Environmental Movement." *The New York Times*, September 23, 2012. <http://www.nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html?pagewanted=all> (accessed January 22, 2013).

This article from the *New York Times* provided me with information about Rachel Carson, her motivations, and how her book changed the mind of the nation. I also obtained quotes which I used on my exhibit board.

Grossman, Elizabeth. "Re-Reading Silent Spring." *Earth Island Journal*, June 22, 2012. http://www.earthisland.org/journal/index.php/elist/eListRead/re-reading_silent_spring/ (accessed November 7, 2012).

This article helped me understand the status today of Rachel Carson's vision. It emphasizes the benefits of rereading the book and how it still relevant today.

Hazlett, Maril. "Woman vs. Man vs. Bugs: Gender and Popular Ecology in Early Reactions to Silent Spring." *Environmental History* 9, no. 4 (2011): 701-729.

This article helped me understand the gender issues that existed in the reaction of the chemical industry to *Silent Spring*. Many of the arguments against Rachel Carson and her book were based on the fact that she was a woman in the sciences.

Hirsch, S. Carl. *Guardians of Tomorrow; Pioneers in Ecology*. New York: Viking Press, 1971.

This book provided me with information about past nature writers and how they contributed to environmentalism. I obtained information about John Muir, President Roosevelt, Aldo Leopold, and other nature writers.

"How Important was Rachel Carson's Silent Spring in the Recovery of Bald Eagles and Other Bird Species?" *Scientific American*, August 31, 2012.
<http://www.scientificamerican.com/article.cfm?id=rachel-carson-silent-spring-1972-ddt-ban-birds-thrive> (accessed March 25, 2013).

This website provided me with information on how banning DDT saved certain species, which can be directly related to the publication of *Silent Spring*. I also used a photograph to display the most popular species that were saved.

Jordan, Rob. "At Stanford, Al Gore Connects Climate Change Inaction to Political Dysfunction." *Stanford University News*, April 24, 2013.
<http://news.stanford.edu/news/2013/april/gore-climate-democracy-042413.html> (accessed May 1, 2013).

This website provided me with information how former Vice President Al Gore is continuing his work with climate change and inspiring people to make a change.

Krupke, Christian H., Renee P. Prasad, and Carol M. Anneli. "Professional Entomology and the 44 Years since Silent Spring: Part 2 Response to Silent Spring." *American Entomologist*, Spring 2007, 16-26.
<http://www.entsoc.org/PDF/Pubs/Periodicals/AE/AE-2007/Spring/Krupke.pdf>.

This article helped me understand the reaction to *Silent Spring*, the reasons behind the response of the chemical industry, and detailed the steps they took to reduce the damage done to their business by the book.

Lear, Linda J. *Rachel Carson: Witness for Nature*. New York: H. Holt, 1997.

This book helped me understand who Rachel Carson was and the reaction that *Silent Spring* received. It also provided me with primary and secondary sources for my research.

"The Legacy of Rachel Carson's *Silent Spring*." *American Chemical Society*, October 26, 2012. Accessed January 5, 2013. <http://portal.acs.org>

This article from the American Chemical Society helped me understand the progress that the society has made to fulfill Rachel Carson's vision and the steps that the society is taking to make their products environmentally safe.

"The Life and Legacy of Rachel Carson." *Connecticut College*, 2013.
<http://www.rachelcarson.org/Timeline.aspx> (accessed February 22, 2013).

This website dedicated to Rachel Carson provided me with information about her life and a variety of additional secondary and primary sources to expand my research. I also obtained the copy of the timeline at my exhibit displayed at the bottom.

Lockwood, Alex. "The Affective Legacy of *Silent Spring*." *Environmental Humanities* 1, 2012, 123-40.

This article helped me understand how Rachel Carson ignited the public feelings against to the use of chemical pesticides in the environment without the public's knowledge or permission. It details how her writing motivated the public towards action.

Lytle, Mark H. *The Gentle Subversive: Rachel Carson, *Silent Spring*, and the Rise of the Environmental Movement*. New York: Oxford University Press, 2007.

This book offered me an intimate view of Rachel Carson's life, principles, personal goals, her illness, and how she decided to devote the possibly last year of her life in defending nature against man's technological advances.

Maroney, Katie. Personal interview by email. May 20, 2013.

This was an email interview with Ms. Maroney from the National Resources Defense Council. She helped me understand how the NRDC continues Rachel Carson's mission and provided me with links of additional sources.

Marzec, Megan. "From Silent Spring to an Inconvenient Truth: Framing Environmental Arguments for the Public Sphere." Thesis, *Boston College*, May 2009.
http://www.bc.edu/content/dam/files/schools/cas_sites/communication/pdf/thesis09.marzec.pdf (accessed January 9, 2013).

This thesis helped me understand why *Silent Spring* was so successful in redefining how the public viewed their relationship to the environment. It also provided me with an analysis of how other books attempted to do the same.

Murphy, Priscilla Coit. *What a Book Can Do: The Publication and Reception of Silent Spring*. Amherst: University of Massachusetts Press, 2005.

This book inspired my exhibit title and provided me with information on why *Silent Spring* was so successful compared to other nature writer books.

Ord, David. "Silent Spring's Effects on the Chemical Industry." *ICIS Business*, May 5, 2009.
<http://www.icis.com/Articles/2009/05/18/9213118/silent-springs-effects-on-the-chemical-industry.html> (accessed October 12, 2012).

This article by ICIS offered me an overview of Rachel Carson and *Silent Spring* from the chemical industry point of view. They admit that her vision has become a principle today, but there is still work to be done on mending the relationship between the public and the chemical industry.

Polt, Richard. "The Classic Typewriter Page: Writers and their Typewriters." *Xavier University*, 2013.
<http://site.xavier.edu/polt/typewriters/typers.html> (accessed March 22, 2013).

This article provided me with information about the model of typewriter that Rachel Carson used. I was able to obtain one and display it at the bottom of my exhibit.

Quaratiello, Arlene Rodda. *Rachel Carson: A Biography*. Westport, CT: Greenwood Press, 2004.

This book provided me with information about Rachel Carson's childhood, early years, education, scientific background and her relationship with nature.

"Rachel Carson Council." *Rachel Carson Council, Inc.*, 2013.
<http://www.rachelcarsoncouncil.org/> (accessed January 02, 2013).

This organization follows the principles laid down by Rachel Carson. I also exhibit one of their books on pesticides. They focus on informing the public about pesticides and provide natural alternatives to pest problems. I contacted the organization by email and they provided me with information about their cause books, and pamphlets.

Rachel Carson Homestead, 2013. http://rachel_carson_homestead.myupsite.com/
(accessed February 9, 2013).

This organization holds events at her birthplace and seminars about her work and principles. I contacted the organization by email and learned more about their mission.

"Rachel Was Wrong." *Competitive Enterprise Institute*, 2013.
<http://rachelwaswrong.org/> (accessed January 16, 2013).

This current website dedicated to opposing Rachel Carson and Silent Spring provided me with information about the opposing point to view and their plans to change the ban on DDT. I tried to contact Angela Logomasini, who runs the website for an interview but she did not respond.

Revkin, Andrew. "How Rachel Carson Spurred Chemical Concerns by Highlighting Uncertainty." *The New York Times - The Opinion Pages - Dot Earth* (web log), September 27, 2012. <http://dotearth.blogs.nytimes.com/2012/09/27/how-rachel-carson-spurred-chemical-controls-by-highlighting-uncertainty> (accessed December 9, 2012. /.

This article quoted on my exhibit helped me understand the chemical industry concerns about Rachel Carson's research and their impact on the industry. It also provided me with additional primary and secondary sources for my research.

A Sense of Wonder. DVD. United States: PBS Video, 2010.

A Sense of Wonder, written and performed by Kaiulani Lee, has been touring the United States for 22 years. Excerpts from the film were edited together for a less than 3 minute video to play at the bottom of my exhibit and help the viewer of my exhibit under Rachel Carson's mission.

Smith, Michael B. "Silence Miss Carson! Science, Gender, and the Reception of Silent Spring." *Feminist Studies* 27, no. 3 (Autumn 2001): 733-52.

This article provided me with information on the gender issues that were used against Rachel Carson and the detailed steps the industry took to discredit her.

Souder, William. *On a Farther Shore: The Life and Legacy of Rachel Carson*. New York: Crown Publishers, 2012.

This book provided me with quotes and photos for my exhibit board. I also obtained more primary and secondary sources to expand my research. It was a beautifully written story which helped me understand Rachel Carson's personal struggles.

Stoll, Mark. "Rachel Carson's Silent Spring, a Book That Changed the World." *The Environment & Society Portal*, 2012.

<http://www.environmentandsociety.org/exhibitions/silent-spring/overview> (accessed October 08, 2012).

This website was extremely helpful both for its content and access to additional primary and secondary sources. It helped me understand the many issues that surrounded the publication of *Silent Spring*.

"The Story of Silent Spring." *National Resources Defense Council*, April 16, 1997.

<http://www.nrdc.org/health/pesticides/hcarson.asp> (accessed February 09, 2013).

From this article came the quote on my exhibit how books can change the world. It was a very inspiring article which compared *Silent Spring* to other influential books in history.

"Theodore Roosevelt and Conservation." *National Parks Service*, 2012.

<http://www.nps.gov/thro/historyculture/theodore-roosevelt.htm> (accessed February 12, 2013).

This website article explained to me the role of President Roosevelt in the founding of the conservation movement and the importance of preserving our natural resources.

Walsh, Bryan. "How Silent Spring Became the First Shot in the War Over the Environment." *TIME Magazine*, September 25, 2012.
<http://science.time.com/2012/09/25/how-silent-spring-became-the-first-shot-in-the-war-over-the-environment/> (accessed January 2, 2013).

This article helped me understand how the industry's reactions to the publication of *Silent Spring* solidified how environmentalists and industry representatives will treat each other in the future. I also obtained the quote in the industry reaction section of my exhibit.