Rachel Carson

"The more clearly we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction."

— Rachel Carson

Growing Up Rachel

Born May 27, 1907, Rachel was the third and last child of Maria and Robert Carson, eight years younger than her brother and 10 years behind her sister. Her family lived on a 65-acre property bordering the Allegheny River just northeast of Pittsburgh, in Springdale, PA.

Rachel Carson's home where she grew up in Springdale, PA. The present-day house is much bigger than when Rachel lived in it.

Rachel's mother followed the 19th century nature study movement where nature was considered the best teacher. She herself was an exceptional naturalist. Rachel had the run of their land and spent hours exploring it.

Rachel reading to her dog, Candy.

At a young age, Rachel decided she would become a writer. Her family and teachers saw her talent and encouraged her. She submitted her first piece to the national magazine *St. Nicholas* at age 10 and earned a 'Silver Badge' and $10 (equivalent to nearly $200 in 2018). The following year, another story won the magazine's 'Gold Badge,' and she went on to publish several more stories.

Rachel graduated at the top of her high school class. With a combination of scholarships and significant financial sacrifice by her family (her mother sold many of their good belongings), she attended the Pennsylvania College for Women in Pittsburgh, now Chatham University. She started as an English major, but a biology class her sophomore year, with a professor who believed women could learn science just as well as men, led her to change her major – and the course of her life.

"I do love to say I'm majoring in Biology, but you ought to see the reactions I get. I've gotten bawled out and called all sorts of blankety-blank names...nobody seems to understand why I'd give up English for Biology."

-Rachel in a letter to a friend, 1928

"I have always wanted to write, but I don't have much imagination. Biology has given me something to write about."

Rachel Carson, 1928

Rachel graduated with honors in 1929. She then earned a Master of Science in zoology and genetics from Johns Hopkins University.

Becoming a Scientist and Writer

Rachel taught part time at Johns Hopkins and the University of Maryland and began writing for the Baltimore Sun. In 1936, she got a job with the Bureau of Fisheries (now the Fish and Wildlife Service). She wrote scientific pamphlets for the general public – a job that combined her talents of writing and biology and showed her to be a skillful writer as well as a top-notch scientist. During this time, she wrote her first book, *Under the Sea-Wind*, in 1941, about life in the ocean. The book sold poorly; as Rachel said, "the rush to the book store that is the author's dream never materialized."

By 1949, Rachel was editor-in-chief of all Fish and Wildlife Service publications – rare for a female scientist at the time. Her second book, The *Sea Around Us*, came out in 1951 to much greater success – it stayed on The New York Times bestseller list for months. In 1952, she resigned from her government job to research and write full time, publishing her third book, *The Edge of the Sea*, in 1955.

Silent Spring

In 1958, Rachel began writing *Silent Spring*, published in 1962. She focused her new book on the interconnectedness of all living things and how human actions, particularly pesticides, were causing great harm. She described how pesticides applied to trees ran off into cow pastures, eventually making their

My Favorite Recreation

by Rachel Carson (age 15) published in *St. Nicholas Magazine*

THE CALL OF THE TRAIL on that dewy May morning was too strong to withstand. The sun was barely an hour high when Pal and I set off for a day of our favorite sport with a lunch-box, a canteen, a note-book, and a camera. Your experienced woodsman will say that we were going birds'-nesting – in the most approved fashion.

Soon our trail turned aside into deeper woodland. It wound up a gently sloping hill, carpeted with fragrant pine-needles. It was our own discovery, Pal's and mine, and the fact gave us a thrill of exultation. It was the sort of place that awes you by its majestic silence, interrupted only by the rustling breeze and the distant tinkle of water.

Near at hand we heard the cheery "witchery, witchery," of the Maryland yellow-throat. For half an hour we trailed him, until we came out on a sunny slope. There in some low bushes we found the nest, containing four jewel-like eggs. To the little owner's consternation, we came close enough to snap a picture.

Countless discoveries made the day memorable: the bob-white's nest, tightly packed with eggs, the oriole's aerial cradle, the frame-work of sticks which the cuckoo calls a nest, and the lichen-covered home of the humming-bird.

Late in the afternoon a penetrating "Teacher! teacher! TEACHER!" reached our ears. An oven-bird! A careful search revealed his nest, a little round ball of grass, securely hidden on the ground.

The cool of approaching night settled. The wood-thrushes trilled their golden melody. The setting sun transformed the sky into a sea of blue and gold. A vesper-sparrow sang his evening lullaby. We turned slowly homeward, gloriously tired, gloriously happy!

Hawk Mountain Connection

Once popular with hunters, Hawk Mountain, in Berks County was the first refuge created for birds of prey. Rosalie Edge turned the land into a protective sanctuary when she learned how many migrating hawks hunters were killing indiscriminately.

Dead hawks collected from a single day of shooting prior to the establishment of the sanctuary.

In the fall of 1945, Rachel and friend Shirley Briggs joined an Audubon Society trip to Hawk Mountain. Rachel had just written the first of three press releases on DDT, suggesting that the pesticide was likely to be harmful to wildlife unless applied at the lowest concentrations.

She became friends over several more visits with Maurice Broun, the caretaker at Hawk Mountain. He had started annual counts in 1934 of all the birds passing over Hawk Mountain during each fall migration. Rachel used the declining numbers to show that pesticides like DDT were affecting birds, and especially our national symbol, the bald eagle.

You can visit Hawk Mountain today, or one of the other preserved raptor lookouts in Pennsylvania, and witness the amazing migration of hawks, eagles and many other birds of prey. Their numbers have increased thanks to the awareness Rachel brought of the impact DDT was having on their breeding success.

Photos: Hawk Mountain Sanctuary

Thousands of people visit Hawk Mountain each year to observe and count migrating hawks and eagles. Fall is the best time of year to see the greatest concentration of birds. This Pennsylvania treasure is in northern Berks County near Kempton, PA.

way into human milk supply. Rachel showed that once pesticides entered the food chain, they worked their way up to threaten bird and fish populations and eventually people, especially children. Much of the research Rachel cited wasn't new, but she was the first to put it all together for a general audience. She criticized scientists for saying it was safe to widely use pesticides, including DDT, despite poor results and harmful side effects to the environment. She didn't believe we should completely abandon pesticides but called for a more moderate and conscientious approach.

It was the first time a popular author made such a compelling case that synthetic pesticides, particularly DDT, were causing such serious harm to the natural world. The chemical industry immediately launched a well-funded counterattack. They argued that without pesticides, we would be overrun by insects and not able to grow enough food to survive. The uproar lead President Kennedy to create the Presidential Science Advisory Committee to investigate; the committee validated Rachel's arguments and recognized her for bringing pesticide abuse to light.

'Silent Spring' Is Now Noisy Summer

Pesticides Industry Up in Arms Over a New Book

Rachel Carson Stirs Conflict—Producers Are Crying 'Foul'

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,

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

Silent Spring sold over 600,000 copies in 1962, and many credit the book with launching the modern environmental movement. A host of legislation followed: the Clean Air Act (1963), the creation of the Environmental Protection Agency (1970), the Clean Water Act (1972), and the Endangered Species Act (1973).

Rachel's Legacy

Rachel died of cancer on April 14, 1964. Through her thoroughly-researched and easily-understood story in *Silent Spring*, she sounded an alarm that got everyone's attention. Ten years and two presidents later, the production of DDT and its use in agriculture was banned in the US. Her warnings about pesticide persistence and how little we knew about the interactions with the natural world laid the groundwork for significant environmental legislation, as well as pesticide safety warnings. She made a compelling case that we couldn't poison nature without poisoning ourselves. She sparked a grassroots environmental movement where people demanded a say in what was happening in their environment.

Rachel Carson

FAST FACTS

BORN May 27, 1907 in Springdale, PA.

AGE 11 | 1918 Published her first story in *St. Nicholas* magazine.

AGE 18 | 1925 Graduates from high school at the top of her class and starts school at the Pennsylvania College for Women (now Chatham University). She switches her major from English to biology after a biology class with Mary Scott Skinker, who became her mentor.

AGE 22 | 1929 Graduates from college and goes to Woods Hole, MA to study marine biology. Starts graduate work at Johns Hopkins University.

AGE 25 | 1932 Graduates from Johns Hopkins with MA in zoology and continues part time jobs teaching biology at Johns Hopkins and as lab assistant and zoology instructor University of Maryland.

AGE 28 | 1935 Writes radio scripts for Bureau of Fisheries and publishes articles for the *Baltimore Sun* and *Atlantic Monthly* on the natural history of the Chesapeake Bay and water ecology. Father Robert Carson dies, and Rachel becomes the sole support for her mother.

AGE 29 | 1936 Appointed junior aquatic biologist and later editor-in-chief for publications for the US Fish and Wildlife Service.

AGE 30 | 1937 Rachel's sister dies and she becomes the sole provider for her mother and two nieces.

AGE 30 | 1941 Rachel publishes her first book, *Under the Sea Wind* which she said was received with "superb indifference," selling less than 1,700 copies in seven years.

AGE 39 | 1950 Confirmed breast tumor removed; no further treatment.

AGE 48 | 1951 Publishes *The Sea Around Us*, which becomes an award-winning bestseller. She resigns from the Fish and Wildlife Service to become full-time writer.

AGE 52 | 1955 Publishes her third book, *The Edge of the Sea*. Two years later, her niece dies, and Rachel adopts her nephew, Roger Christie.

AGE 54 | 1962 Houghton Mifflin publishes Rachel's book, *Silent Spring*. It becomes a book-of-the-month club selection. Six chemical companies file lawsuits against her and the book publisher.

AGE 55 | 1963 CBS Reports airs *The Silent Spring of Rachel Carson*. Rachel testifies before Congress on the misuse of pesticides. Inducted into the American Academy of Arts and Letters.

AGE 56 | 1964 Rachel dies of breast cancer. Her four published books, all best-sellers, each changed how we see ourselves and the world. A fifth book *The Sense of Wonder* comes out after her death. All are still in print. Widespread use of DDT was banned in the U.S. in 1972.

Rachel Carson

GUIDING QUESTIONS

These questions and answers are designed to aid discussion of three of the main ideas presented in the film, *Rachel Carson: Voice of Nature*.

- One person can make a difference.
- Everything is connected.
- New environmental issues challenge us today.

Open ended questions to begin discussion:

What was the most surprising thing you learned from the video?
How does your life compare to that of Rachel Carson?
What similarities and what differences do you draw between Rachel and yourself?
If Rachel Carson were here today, what questions would you ask her about the obstacles she faced?

One Person Can Make a Difference

(3 questions)

How did Rachel's upbringing and experiences influence her work and accomplishments?

Rachel Carson demonstrated how one committed person can make a difference. Several factors contributed to Rachel's direction in life:

- She grew up with plenty of opportunities to be in and observe the natural world. Her childhood was spent in rural Springdale where she was immersed in nature and the outdoors.
- Her parents and especially her mother supported and sacrificed so that she could go to college. She earned high grades that brought her scholarships to pay for an education that her family couldn't afford.
- She had a strong female mentor in college who encouraged her to study science even though at the time it was discouraged for women as not being a viable career option.
- Rachel found a career where she could focus on her strengths and passions: writing and biology.
- She wasn't afraid to contact well-known experts for information and advice.

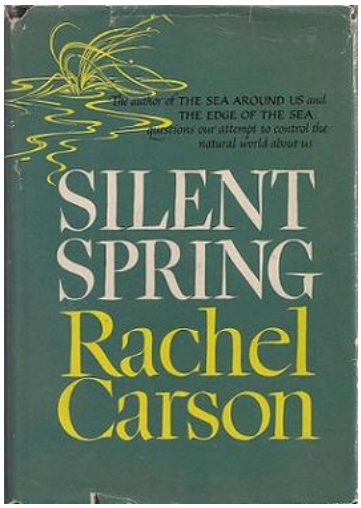
What made Rachel so effective at reaching so many people?

Rachel based her facts on tons of research, gathering all the best and latest science from all kinds of sources – public and private. She cited dozens of scientific reports, conducted interviews with leading experts and reviewed materials across disciplines, including the data collected by Maurice Broun at Hawk Mountain.

"The reports of Maurice Broun, curator of the Hawk Mountain Sanctuary, are especially significant. Broun has observed and tabulated more hawks and eagles than any other American…from 1935 to 1939, 40% of the eagles observed were yearlings…But in recent years these immature birds have become a rarity. Between 1955 and 1959, they made up only 20% of the total count, and in one year (1957) there was only one young eagle for every 32 adults."

Rachel Carson, *Silent Spring*

Silent Spring revealed the interconnectedness of all living things. Rachel expertly synthesized all the information she'd gathered and made it easily understandable – she brought science to life. She related her stories to what people know and care about. The idea that mothers were feeding their babies DDT through breast milk got everyone's attention.



How can you make a difference in your world?

Use Rachel Carson's story to inspire your own life. Making a difference can be as small as changing light bulbs in your home to more energy-efficient bulbs or a larger effort such as composting your food waste instead of sending it to the landfill. Here are some other ideas:

Spend time in the natural world: Get to know a natural area and share your interest and knowledge with others. Check out one of the Pennsylvania bald eagle nest cams in springtime to see close-up a pair of bald eagles raising their young: bit.ly/2CUMUiP

Photo: PA Game Commission

Host a volunteer project: Work with the Pennsylvania Parks and Forests Foundation to host a volunteer project in partnership with a friends group or in a state park or forest. paparksandforests.org

Help raise awareness about how human activities impact nature: Research an issue that is impacting parks and forests, such as climate change or invasive plants or insects. Write a story, host a twitter conference, or produce a video.

Read more about Pennsylvania's conservation heroes on the Conservation Heritage website, paconservationheritage.org. Write an essay for a local person who has made a difference and submit to the website.

Share your projects and ideas!
#LiveLikeRachel #PAConservationHeroes

Everything is Connected
(1 question)

What did Rachel show was happening with the insecticide DDT?

In 1957, Rachel received a letter from a friend who had created a private bird sanctuary in Massachusetts. As part of a mosquito control project, a plane had sprayed DDT over her community. The birds all died, as did all other insects, not just mosquitoes. The letter led Rachel to start her research on the dangers of pesticides.

Rachel's book starts with a story, a fable, about a 'silent spring' – where no birds sing, no fish swim, and no bees buzz about the flowers. Plants turn brown and children and adults come down with mysterious diseases and die. The fable introduces her research that shows the dangers of pesticides in the food chain and the alarming amount of chemicals in our lives. Rachel wanted to show that ALL life is interconnected, that if our food is sprayed with pesticides, the pesticides also affect the people who eat the food.

DDT – dichlorodiphenyltrichloroethane – is a potent insecticide that effectively prevents the spread of typhoid, malaria and other diseases transmitted by insects. It was credited for saving countless lives during World War II. Scientists believed it was safe for people.

But some scientists were starting to raise questions about the negative environmental impacts. One consequence could be seen in birds, particularly birds higher on the food chain.

Insects spayed with DDT are directly contaminated and killed as it passes through their exoskeleton and disrupts their nervous system. Many animals eat the contaminated insects, including fish, birds, reptiles, amphibians, and small mammals. These animals are then eaten by larger animals, such as bald eagles. As these long-lived birds continue to eat DDT-contaminated prey, the pesticide accumulates in their bodies, resulting in very high concentrations. DDT interferes both with overall reproduction in birds but particularly with how females produce calcium for their eggs. They lay eggs that are either entirely sterile or, if fertile, shells are so thin that the adult birds crush them when they sit on them. By the 1960s in Pennsylvania, only two to three bald eagle nests were left in the entire state – nowhere near enough to sustain the population of our national bird.

Today's Environmental Issues
(2 questions)

What are some of the current issues affecting us today?

Climate Change
Although debate continues about how to manage our changing climate, scientists overwhelmingly agree that our climate is changing, with consequences for the earth and people. Global air temperatures near earth's surface rose almost 1.5 degrees Fahrenheit in the last century. Eleven of the last 12 years have been the warmest on record, and earth has warmed twice as fast in the last 50 years as in the 50 years before that. As the temperature rises, the amount of carbon dioxide, or CO2, in the air rises. And as CO2 goes up, the temperature goes up even more. CO2 is a greenhouse gas. It traps heat from earth's surface and holds the heat in the atmosphere. Temperature and CO2 levels in the air are closely tied. Since 1950, CO2 levels have increased at an alarming rate, primarily due to our use of fossil fuels.

We're already seeing effects: melting polar ice caps, more extreme storms, rising sea levels. Scientists also expect to see the extinction of certain species and loss of forests. Some of our infrastructure faces threats, like the extra burden on the energy grid from high temperatures. Climate change also threatens agriculture and food security.

Invasive species
Invasive species are non-native species that have been brought in from other places and whose introduction causes economic or environmental harm or harm to human health. They can be any type of organism: plant, fish, invertebrate, mammal, bird, disease or pathogen. Species become invasive when enough individuals are present to form a breeding population. These problem species have popped up in Pennsylvania over the years, primarily through travel and commerce.

Once a new species is introduced, it can become very difficult to get rid of, or even to control. Local plants and animals get choked out by foreign competitors, forests get eaten away by pests, and croplands and pastures become less productive.

Some species causing problems in Pennsylvania now include emerald ash borer (killing all ash trees); hemlock woolly adelgid (destroying large swaths of eastern hemlock trees); and Japanese stilt grass (affects biodiversity and forest regeneration). Aquatic invasive species like zebra mussels and Eurasian water-milfoil block waterways and restrict recreational use of lakes, streams and estuaries. They also reduce the capacity of waterways and lakes to support native aquatic life.

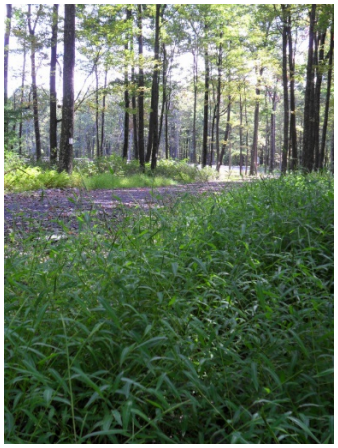
What can we apply from Rachel's approach to current environmental issues?

Get the facts: Rachel researched exhaustively when she wrote *Silent Spring*. For climate change, study the effects of climate on animal habitats; use geography to study sea level or biology to study how species adapt; learn what insurance companies, emergency responders, and the military are doing in response to climate change. Choose one of Pennsylvania's invasive species, such as emerald ash borer or hemlock wooly adelgid, and research to learn how it's affecting your community or favorite park.

Share what you learn with your family and community. Make it relatable to what people care about.

Look for ways you can help: Look for solutions you can be a part of at home and school. Read case studies to understand more complex solutions.


Hemlock wooly adelgid


Japanese stiltgrass

Rachel Carson

ACTIVITIES

One Person Can Make a Difference

PENNSYLVANIA LAND CHOICES

palandchoices.org

Ready, Set… Action!
This lesson focuses on the power and responsibility of each individual to become involved in improving his or her community through community action and leadership in conservation. (bit.ly/1RYIIun)

Bill Moyers Journal: Rachel Carson Educator Activities
pbs.org/moyers/journal/educators/rachelcarson

Suggested Activities

Beautify your school: Look at your school – what could you do to make it more attractive? Take before and after photos to show how you improved your school.

Create habitat for wildlife: Check out *Audubon at Home* for ideas
pa.audubon.org/audubon-home

The National Wildlife Federation's *Schoolyard Habitats* is another great program:
nwf.org/How-to-Help/Garden-for-Wildlife/Schoolyard-Habitats

Create an individual or class senior legacy project that permanently beautifies your school.

Create a public art project such as a mural or brightly-painted rain barrels

Create a timeline for another conservationist (or for yourself!) on what things in their lifetime influenced their conservation ethic or leadership.

Everything is Connected

PENNSYLVANIA LAND CHOICES

palandchoices.org

No Park is an Island
This lesson provides background information on participating and protecting public lands. The title "No Park is An Island" speaks to the connections between communities, natural resources and public lands. There are no isolated lands or isolated communities. Each should enhance and benefit the other.
bit.ly/1WHalA6

Natural Inquirer

naturalinquirer.org
USDA Forest Service scientists share their research with middle school students. Students "meet the scientists," read special information about science and the environment. Students also read about a specific research project, written in a way that scientists write when publishing their research in journals. Students become scientists when they do the Discovery FACTivity, learning vocabulary words that help in understanding articles. These are just a few: Natural IQ Climate Change

- Citizen Science
- Natural IQ Climate Change

Educator guide to accompany the film, *Pennsylvania Bald Eagles: Celebrating 30 Years of Restoration* (youtu.be/-4DK0sCiMd8)
bit.ly/2Rpq6LU

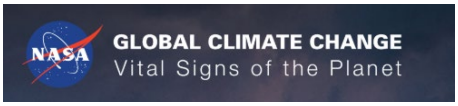
Today's Environmental Issues

FS NatureLIVE
BRINGING NATURE TO YOU

fsnaturelive.org

Distance learning adventures enable classrooms to 'travel' to remote locations and ask questions of the experts. Resources include webcasts, webinars, and on-line education resources. Past topics include bats, wetlands, climate change and much more.

National Oceanic and Atmospheric Administration | Climate.gov
https://www.climate.gov/teaching
Scientifically and pedagogically reviewed resources for teaching about climate's influence on you and society and your influence on climate.



Introduction to Earth's Dynamically Changing Climate – Examine evidence of climate change from different parts of the Earth's system and consider what it means to live on a planet with a dynamically changing climate.
climate.nasa.gov/resources/education/pbs_modules/lesson1Overview/

climatekids.nasa.gov/
Excellent resource for elementary age, with simple overviews and suggested activities.

These sites require that you attend training to obtain their lesson plan materials:

Project WILD

Project Wild offers hands-on K-12 activities designed to support state and national academic standards. projectwild.org

2018 Indicates new activities added to the 2018 edition and not found in earlier editions.

Key activities for *One Person Makes a Difference*:

- Habitat Heroes 2018 Design a project to improve wildlife habitat in their community or on school grounds.

Key activities for *Everything is Connected*:

- Quick Frozen Critters Examine the interdependence of predator and prey through a highly active simulation.
- Hazardous Links, Possible Connections Explore the flow of DDT through the food web through an active game.
- Environmental Barometer2018 Examine the presence or absence of wildlife to indicate the health of the ecosystem.
- Time Lapse2018 Examine changing plant and animal communities through succession.
- A Dire Diet2018 Search for food as different animals in a food web; analyze possible consequences of pesticide accumulation in the environment.

Key activities for *Current Issues*:

- Changing the Land Examine the consequences of forest development on a bird species.
- Here Today, Gone Tomorrow explore the reasons species are becoming endangered or threatened.
- Back from the Brink explore the decline and recovery of species.
- Bat Blitz2018 explore the world of bats and the consequence of white-nose syndrome in an active simulation.
- Phenology at Play2018 explore the role of climate change in phenology (timing of things in nature, such as flowers blooming, migration) and the possible consequences to wild plants and animals.

Check the DCNR Calendar of Events (bit.ly/21eBRE9) for upcoming teacher workshops.

Project WET Water Education for Teachers

Project WET gives K-12 educators tools to integrate water education into every school subject, with field-tested activities and assessment strategies. projectwet.org

Key activities for *Everything is Connected*:

- Poison Pump follow clues to discover the consequences of contaminated water.
- The Pucker Effect conduct an experiment to observe how ground water transports pollutants.

Key activities for *Current Issues*:

- Invaders explore the consequences of invasive plants and animals

Contact the Project WET Coordinator (bit.ly/1PN1s5X) for workshop information, or check the DCNR Calendar of Events (bit.ly/21eBRE9 for upcoming teacher workshops.

Project Learning Tree®
Empowering Educators, Inspiring Youth

PLT Environmental Education Activity Guide (bit.ly/29Ereli)

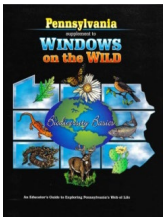
Key activities for *Everything is Connected*:

- Field, Forest, Stream conduct a field study of three different habitats to discover the relationships among biotic and abiotic features.
- Are Vacant Lots Vacant? conduct a field study on a vacant lot to discover the plants and animals that inhabit this ecosystem.

Key activities for *Current Issues*:

- A Look at Aluminum explore how aluminum is made and examine the environmental impacts of producing new and recycled aluminum.

Contact the PLT Coordinator (bit.ly/1QyM4Ui) at the PA Bureau of Forestry for workshop information, or check the DCNR Calendar of Events (bit.ly/21eBRE9) for upcoming teacher workshops.



Pennsylvania Supplement to Windows on the Wild (PA WOW) is an educator's guide to exploring Pennsylvania's biodiversity.

Key activities for *Everything is Connected*:

- **Creature Connections** Students go on a "scavenger" hunt to look for connections among wild plant and animal species.
- **The Nature/Culture Connection** Students discover that we rely on the environment even in common experiences, such as going to the mall, or a game, or a celebration.

Key activities for *Current Issues*:

- **Future Worlds** Students explore local, state and world-wide issues and decide which issue they think is the most important to address first.
- **The Edge Effect** Students explore the consequences of habitat fragmentation on wild species through an active simulation.
- **The Case of Endangered Species** Students determine the attributes that make species more inclined to become endangered, examine the natural history of several Pennsylvania Endangered Species and discuss the causes of their decline.

Aquatic WILD

Project Wild Aquatic uses the simple, successful format of Project WILD activities and professional training workshops but with an emphasis on aquatic wildlife and aquatic ecology. projectwild.org/aquatic/

Key activities for *One Person Makes a Difference*:

- Living Research: Aquatic Heroes and Heroines – Grades 7-12. Students research and interview local people who have made a difference in their community.

Contact the Aquatic Wild Coordinator (bit.ly/1TbKSIk) at the PA Fish and Boat Commission for workshop information, or check the PFBC Calendar of Events (bit.ly/1XV5A2X) for upcoming teacher workshops.

Rachel Carson

LINKS

Links

Statewide

The Life and Legacy of Rachel Carson, rachelcarson.org

Rachel Carson Homestead rachelcarsonhomestead.org

Rachel Carson Council, rachelcarsoncouncil.org

Rachel Carson Institute, Chatham University, chatham.edu/centers/rachelcarson

Hawk Mountain Sanctuary, hawkmountain.org

Pennsylvania Conservation Heritage Project paconservationheritage.org

Pennsylvania Parks and Forests Foundation paparksandforests.org

Department of Conservation and Natural Resources dcnr.state.pa.us

ExplorePAHistory.com explorepahistory.com

WITF witf.org

Other Pennsylvania Women of Note

Rosalie Edge, Hawk Mountain Sanctuary hawkmountain.org

Mira Lloyd Dock, bit.ly/2yci7ut

References

Rachel Carson

Brooks, Paul. *Rachel Carson: The Writer at Work*. Sierra Club Books, 1998.

Griswold, Eliza. "How 'Silent Spring' Ignited the Environmental Movement." The New York Times, The New York Times, 21 Sept. 2012, nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html.

Harlan, Judith. *Sounding the Alarm: A Biography of Rachel Carson*. Dillon Press, 1989.

Lear, Linda. *Rachel Carson: Witness for Nature*. Mariner Books, 2009.

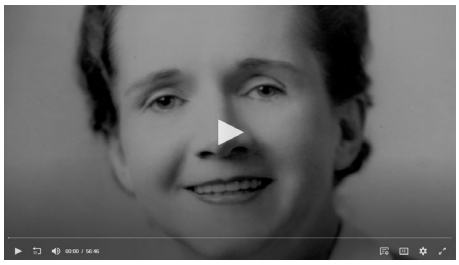
"Rachel Carson House (U.S. National Park Service)." National Parks Service, U.S. Department of the Interior, nps.gov/places/rachel-carson-house.htm.

Souder, William. *On a Farther Shore: The Life and Legacy of Rachel Carson*. Broadway Books, 2013.

Other

Bald Eagles. PA Game Commission, bit.ly/2E3lpki

Video



Rachel Carson: Voice of Nature pbs.org/video/rachel-carson-voice-of-nature-viqzrt

If you liked this video, others are available at Pennsylvania Conservation Heritage Project paconservationheritage.org

Additional Videos

The Silent Spring of Rachel Carson - Rare Pre-EPA Look at America Best Documentary" YouTube, 13 Oct. 2017, youtu.be/QyNFa8yS6PE

Bill Moyers Journal: Rachel Carson pbs.org/moyers/journal/09212007

Pennsylvania Bald Eagles: Celebrating 30 Years of Restoration youtu.be/-4DK0sCiMd8