

Rachel Carson: A True Saviour of Birds of Prey



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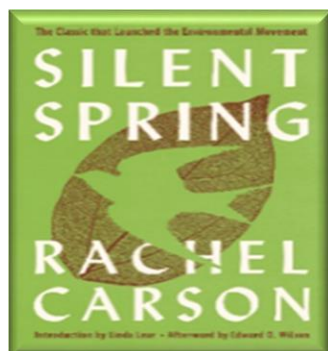
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Rachel Louise Carson from Pennsylvania, United States (May 27, 1907 – April 14, 1964) was an eminent marine biologist, environmental conservationist and one of the most renowned authors. She professionally related to the U.S. Fish and Wildlife Service as marine biologist for a long time. As an author, she wrote several books starting with the book named 'Under the Sea-Wind: A Naturalist's Picture of Ocean Life' which was published in 1941. In 1951 she won National Book Award for the book 'The Sea around Us'. She started her journey in the field research from 1953 on the coast of Atlantic zones, which was described in the book 'The Edge of the Sea'.



The most important journey of her life starts with a letter from her old friend Olga Owens Huckins, who was a journalist and nature lover from Massachusetts. At that time, US Government was trying to get rid of pests and mosquitoes in the residential area of the region and spraying DDT from airplanes. One day, Huckins found several birds and insects lying dead in her two-acre bird sanctuary. After this incident, she wrote two letters conveying her anger – one of her letters was published in The Boston Herald on January 29, 1958 entitled 'Evidence of Havoc by DDT'. She wrote another letter to her old friend Rachel

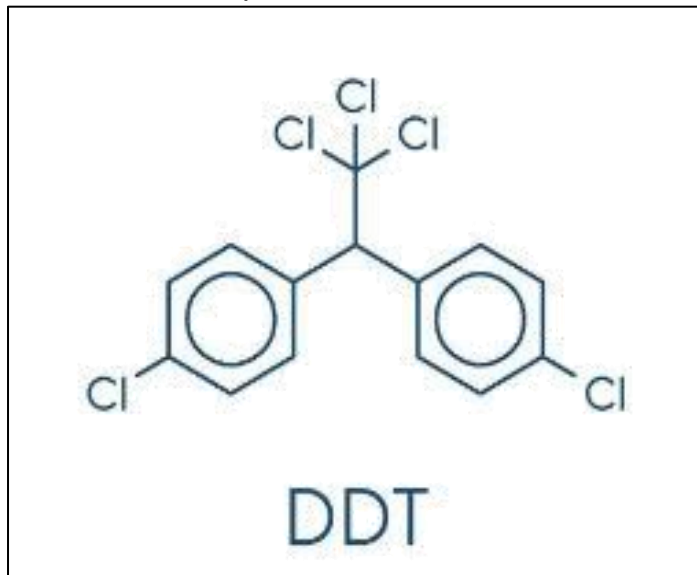
Carson describing the whole incident. Carson mentioned in her book that, this letter motivated her to study the impact of synthetic chemical pesticides on natural environment. In 1962 she published a book, **Silent Spring**, describing the adverse effect of chemical pesticides, especially DDT on environment. This book is often referred as the main catalyst of the environmental movement started in the 19th century and which acquired national and international momentum thereafter. Rachel Carson also inspired ecocentric approach of thinking - where human being is not considered as the centre of life but part of the natural ecosystem.

In this book's enthralling opening apologue, she described an imaginary city of the future:

"It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh."

DDT (Dichlorodiphenyltrichloroethane) is the world's first modern chemical pesticide synthesized in the 1940s. During **World War II**, DDT was effectively used to combat malaria, typhus, and the other insect-borne human diseases. DDT became available for public use in 1945, and it has become most widely used pesticide chemicals in the United States and other parts of the World. Later it is classified as a persistent organic pollutant (POP) and several studies showed that it causes several harmful effects on human beings and other living beings including neurological effects, toxicity in humans and other animals, and biomagnified in higher

concentrations up in the food chain.



Avian community faced a catastrophic impact of the use of DDT worldwide. This toxic pesticide can easily percolated into water and soil, contaminating the aquatic organisms including fishes and several other organisms like worms, rodents, insects and other prey that many birds fed on. Particularly the birds of prey like ospreys, brown pelicans, and Bald eagle were catastrophically impacted. Fish make up 99% of the birds like osprey. Other than fish, Ospreys also depends on rodents, small birds, rabbits, small reptiles and amphibians. Higher concentration of pesticides absorbed in fish-eating birds due to biomagnification in the food chain. Presence of excessive concentration of DDT in the body of predator birds made it more difficult for them to absorb calcium. Lack of calcium in their body made their egg shells thinner and many egg shells broke before hatching. Birds like Osprey, Eagles and Pelicans normally lay 1 to 3 eggs at a time

and shell thinning made an enormous impact on the overall population of those birds of prey.

The detrimental effect of extensive use of DDT was clearly evident from the drastic reduction of population of some birds of prey like Osprey, Brown Pelican, Bald Eagles, Peregrine falcons in 1960s around the United States. Scientists reported the reduction of reproduction rates of various avian species in United States and all over the world due to pesticide pollution. Report said that only 417 Bald Eagles were existed in US by 1963, and California condor were extinct in the wild around 1987. Peregrine falcons, Osprey, Pelicans and many other birds of prey were in the verge of extinction due to fearsome effect of pesticides.

Silent spring is the most significant book on effect of unregulated use of synthetic chemical pesticides on natural environment. This book played a significant role in the history of environmentalism and brought together thousands of scientists, environmentalists and



common people to fight for the protection of environment. Various scientific studies also confirmed the adverse effect of DDT on environment and human health. In 1972, Environmental Protection Agency (EPA) banned the use of DDT all over the World. This became the landmark decision for the birds of prey of all around the world, which are on the verge of extinction. Since the ban on DDT, the population of Bald eagles has increased significantly from 417 nesting pairs to almost 10,000 nesting pair's



around the United States. Population of Osprey increases from 8000 to 14,250 breeding pairs within 1981 to 1994. Many other predator birds made miraculous comeback within 10-15 years after the decision of banning of DDT.

The legacy of Silent Spring still continuing today in the field of science and research for the

generation of eco-friendly products and conservation of natural environment for sustainable development.

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

