Herb was born on March 24, 1922, in New York City. His parents, Carl Bernhardt Bormann and Gertrude Anna Andle, were immigrants from Germany and Austro-Hungary, respectively, and he grew up in Westwood, New Jersey. Herb spent one semester at the University of Idaho before enlisting in the United States Navy after the attack on Pearl Harbor. He was a ship fitter petty officer and a welder on submarines in Hawaii. From there, he attended officer candidate school on the Princeton University campus until the end of World War II.

Like so many other prominent, inquisitive, and insightful biologists, Herb’s early love of nature was nurtured by his parents, particularly his mother. As an undergraduate at Rutgers University in New Brunswick, New Jersey, he had the privilege of being

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F. HERBERT BORMANN

mentored and befriended by two of the most inspirational ecologists of the time, Murray and Helen Buell. He received his PhD at Duke University with Henry Oosting, whom he greatly admired. These early formative years helped him to see the value of integrating knowledge along a continuum of biological organization, from species to ecosystem.

A major turning point in Herb’s career occurred when he was a young professor at Dartmouth College and when he first came in contact with his group of future collaborators: Gene E. Likens, Robert S. Pierce, and Noye M. Johnson. He had been working successfully at Dartmouth on experimental studies of root grafting in White Pine (*Pinus strobus* L.), where individual trees are directly connected through their root masses. But having been exposed to watershed studies at the Coweeta Hydrologic Laboratory in North Carolina when he was a graduate student, he saw a great potential for expanding such a watershed-based approach to the forested ecosystems at the newly established US Forest Service’s Hubbard Brook Experimental Forest (HBEF) hydrologic facility in the White Mountains of New Hampshire. He believed that new ecological insights could be obtained by combining studies of hydrologic and nutrient cycles at the watershed scale.

When Likens joined the faculty of Dartmouth College in 1961 as an aquatic ecologist with strong interests in ecosystem ecology, he and Herb spent many hours talking about the exciting possibility of conducting ecosystem studies in the gauged watersheds of the Hubbard Brook Experimental Forest. Robert S. Pierce, US Forest Project Leader at HBEF, and Noye M. Johnson, a young geologist at Dartmouth College, enthusiastically joined the team.

The expertise of this group of scientists blended strongly, and on June 1, 1963, they initiated what was to become the highly successful, long-term Hubbard Brook Ecosystem Study. The conceptual design for this study, based on the small watershed ecosystem approach, was laid out in detail in a 1967 paper in *Science*. This conceptual model provided a rigorous foundation for long-term studies of complicated interactions

One of Herb’s best-known research findings with colleagues of the Hubbard Brook Ecosystem Study included the realization that disturbing the forest ecosystem, for example by clear-cutting, would dramatically alter the nitrogen cycle and nutrient economy of the ecosystem.
between air, land, and water in these forested northern hardwood ecosystems. Herb and Likens had an unusually productive and collegial partnership in science for more than fifty years. Johnson died in 1987 and Pierce died in 1993.

The lasting success of the Hubbard Brook Ecosystem Study can be assigned to the scientific and conceptual ideals that led to its development, as well as the personal ideals of its originators. Herb believed that strong social bonds made for strong collegial interdisciplinary science, and he believed that close conversation among collaborators with diverse but complementary perspectives was essential for understanding complicated ecosystems. Herb and Likens jointly applied this approach in the initiation and development of the Hubbard Brook Ecosystem Study.

This culture of scientific and social collaboration extended to a very large number of graduate students and postdoctoral associates who have been trained at Hubbard Brook. Herb asked questions that were cleverly designed to challenge students to place their findings in an “ecosystem context.” But for Herb, science could never truly be separated from a game of softball, a match of doubles in tennis, or a potluck dinner at his house. And at any hour of the day he looked for a sympathetic ear with whom he could talk about baseball, with special attention to the persistently poor fortunes of his beloved New York Mets.

One of Herb’s best-known research findings with colleagues of the Hubbard Brook Ecosystem Study included the realization that disturbing the forest ecosystem, for example by clear-cutting, would dramatically alter the nitrogen cycle and nutrient economy of the ecosystem. While it was expected that forest disturbance would change the hydrology of the system, it came as a major surprise that experimental disturbance
of entire watershed-ecosystems also triggered fundamental changes in nutrient cycles. Herb was also widely known for co-discovering acid rain in North America during the team’s early studies at Hubbard Brook. The research team was measuring precipitation chemistry as one of the major inputs to chemical ecosystem budgets when this discovery was made.

Herb’s most cited publication is *Pattern and Process in a Forested Ecosystem*, a book that was very influential in shaping thinking about how northern hardwood forest ecosystems recover from major disturbances such as clear-cutting, and about how the nutrient dynamics (e.g., carbon and nitrogen) of these ecosystems can change.


Herb’s attention to social interactions for enhancing scientific communication and productivity also made him an inspiring teacher. His students remember perhaps most vividly how he always challenged them to think bigger and deeper. He was most effective (and happiest) when he could do this kind of big ecology teaching in the field or on a long walk with colleagues or students.

Herb died on June 7, 2012, in North Branford, Connecticut. He is survived by his wife of sixty years, Christine Williamson Bormann, and his four children, Dr. Bernard T. Bormann, Dr. Rebecca E. Oehlert, Amelia E. Bormann-Smitka, and Dr. Lincoln H. Bormann, as well as six grandchildren.
AWARDS

Elected to the American Academy of Arts and Sciences in 1972
Elected to the National Academy of Sciences in 1973.
President of the Ecological Society of America from 1970 until 1971.

The Aldo Leopold Award from Yale University in 2012.
The Blue Planet Prize (with Likens), given by The Asahi Glass Foundation in 2003 for pioneering an approach that has become a model for the scientific world, and for comprehensive understanding of ecosystems through long-term measurement of the flows of water and chemical substances in watersheds.
The Eminent Ecologist Award, given by the Ecological Society of America (with Likens) in 1995, for outstanding contributions to the science of ecology.
The National Conservation Achievement Award in Science, given by the National Wildlife Foundation in 1995, for outstanding contributions to the wise use and management of the nation’s natural resources.
The Tyler Prize for Environmental Achievement (with Likens), given in 1993 for creating the premier model for ecosystems study in the world utilizing the small watershed technique for the study of the biogeochemistry of whole forest ecosystems, which changed American law and forestry practice and resulted in recognition of acid rain as a major environmental problem in North America.
The Yale School of Forestry & Environmental Studies Excellence in Teaching Award, given in 1989.
Rutgers University’s Distinguished Alumni Award, given in 1988.
The US Forest Service 75th Anniversary Award (with Likens), given in 1980.
The American Motors Conservation Award (with Likens), given in 1969.
The Ecological Society of America George Mercer Award, given in 1954.
POSITIONS HELD
Adjunct Professor, School of Natural Resources, University of Vermont 1994–2012
Professor Emeritus and Senior Research Associate, Yale University, 1992–2012
Oastler Professor of Forest Ecology, Yale University, 1966–1992
Professor of Botany, Dartmouth College, 1962–1966
Associate Professor of Botany, Dartmouth College, 1959–1962
Assistant Professor of Botany, Dartmouth College, 1956–1959
Assistant Professor of Biology, Emory University, 1952–1956

EDUCATION
University of Idaho, 1941
Princeton University, V-12 Navy College Training Program, Class of 1947
Rutgers University, BS, Agricultural Science, 1948
Duke University, PhD, Plant Ecology, 1952

MILITARY SERVICE
United States Navy, 1942–1945

AUTHORS’ NOTE
SELECTED BIBLIOGRAPHY


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