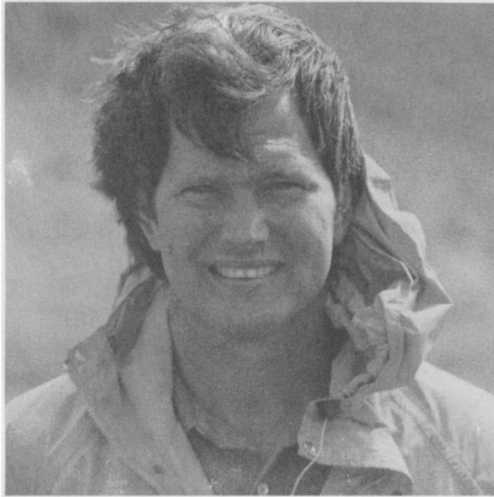


**MACARTHUR AWARD—1993**

PETER M. VITOUSEK



Robert MacArthur had an enormous impact on the development of our understanding of ecological systems. The Ecological Society of America honors his contributions and his memory with an award in his name to the best and brightest among us. The Society certainly has chosen a fitting person for the 1993 award, Peter Morrison Vitousek.

Vitousek has provided, as had MacArthur before him, truly new conceptual approaches for understanding the dynamics of ecological systems. Peter has been both prolific and profound.

Peter is presently a Professor of Biological Sciences at Stanford University, where he has been since 1984 to my, and my colleagues, enormous benefit. He taught at Indiana University from 1975–1979 and the University of North Carolina from 1980–1983. Peter received his Ph.D. from Dartmouth College, working with Bill Reiners on the nutrient dynamics of forests. Bill's early flowing descriptions of the potential contributions of Peter, and of his most likely professional trajectory, have all become very true.

Vitousek's scientific contributions have dealt with the controls of nutrient dynamics of ecosystems through successional time and with the consequences of disturbance, particularly on nitrogen budgets. This work, in which he collaborated with

a large number of scientists in developing a comparative perspective, has provided understanding and important guidelines for management of ecosystems. This research line has continued, with Peter becoming increasingly concerned with the global dimensions of the nitrogen cycle and the impact of human beings on various aspects of the cycle. Peter and his colleagues have focused on the interactions between soil processes and land use practices and, particularly in the tropics, on the changing chemistry of the troposphere. Studies such as these have brought his attention and talents toward the study of global change, where he has played a major international leadership role.

Peter is now focusing on the Hawaiian Islands, where he grew up, as a laboratory for the study of ecosystem development utilizing the islands of various ages and their sharp elevational gradients. These studies have been varied and have included pioneering work on the impact of invading species on ecosystem properties. His increasing interest and work on the loss of biological diversity in the Islands brought him a Pew Scholarship in Conservation and Environment in 1990. As is characteristic of him, if he finds that the results of his work have policy implications, he does not hesitate to bring these findings and their consequences to a wide audience for public debate.

Of all of Peter's work, the one study that has captured the attention of scientists far from the realm of ecology is his 1986 paper on "Human appropriation of the products of photosynthesis," written with his close colleagues Anne and Paul Ehrlich and Pamela Matson. This analysis, which demonstrates that humans are now utilizing, dominating, or destroying between 30 and 40% of the total terrestrial productivity, frequently serves as a powerful introduction to reports on human impact on the biosphere.

For Peter's outstanding contributions to the study of the nature and dynamics of ecosystems he was elected to the National Academy of Sciences in 1992, and was also chosen this year as the recipient of the Robert H. MacArthur Award.

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