

## EMINENT ECOLOGIST AWARD

### Robert T. Paine

The Eminent Ecologist Award is given in recognition of an outstanding body of ecological work or of sustained contributions of extraordinary merit. The winner of the 2000 Eminent Ecologist Award is Robert T. Paine. Bob has had a huge influence on ecology as we know it; many of our current ideas about communities, predation, indirect interactions, gap formation, stability, nonequilibrium dynamics, food webs, and so on are traceable to Bob and his work. His talents are many—superb naturalist, innovator in experimental manipulation of natural systems, rigorous in detail, keen thinker, and guardian of Uncle Sam's dollars. He has



served as an inspirational mentor, and has effectively and selflessly served on innumerable committees and in different offices.

Bob's eminence is expressed in the breadth and longevity of his insights. His classic paper in 1966 on food web complexity and species di-

versity has been reprinted in four collections of benchmark papers; in addition, five of his other papers have been reprinted in books of selected readings. His concept of the keystone predator is probably known by every student who ever took an ecology course, and its continued significance is reflected by prominent mention in recent reviews as well as issues of *Science*. But Bob's contributions extend far beyond a single classic paper. His research on gap dynamics in the rocky intertidal led to his collaboration with Si Levin to formalize the role of disturbance in community dynamics in mathematical terms. This work, combined with Bob's experimental studies on predation, was critical in pushing ecology from a paradigm of equilibrium communities structured by competition, to nonequilibrium communities strongly influenced by predation and by spatial and temporal heterogeneity. Similarly, Bob's work on the structure of food webs and the measurement of interaction strength has had a profound influence in shaping our understanding of these topics. His experimental analysis of interactions between intertidal grazers and seaweeds simultaneously confirmed his earlier speculations about variation in interaction strengths in interaction webs, and renewed interest in

the topic, touching off a new round of intensive research and debate regarding this and related issues. Finally, Bob has had a major international influence on marine ecology. Marine ecological research in Chile, for example, owes much to Bob's collaborative efforts with Juan Carlos Castilla and other Chilean marine scientists during sabbatical visits to Pontificia Universidad Católica in Santiago.

Much of Bob's impact on ecology stems from the high standards he has set, as well as his outreach to those with different perspectives and different ways of approaching systems. Although he has always imbedded his own work in a general theoretical framework, he has been a strong advocate of field experiments throughout his career, and should be credited as one of the most effective leaders in bringing about increased rigor in modern ecology. Bob's great skills as a naturalist have enabled him to design convincing experiments and to draw strong and lasting conclusions. He has an amazing breadth, ranging from fossil brachiopods to extant birds.

Bob has also had a profound influence on ecology through his mentoring of students. He has advised over 40 graduate students at the University of Washington, many of whom would now figure prominently on any

Who's Who list of the most creative and influential marine ecologists. As a member of the Department of Zoology faculty at the University of Washington since 1962, and its Chair during much of the 1990s, Bob had a major hand in developing one of the best ecology programs anywhere.

Bob has been widely recognized for his achievements, having won ESA's MacArthur Award in 1983, the Excellence in Ecology Prize from the Ecology Institute in Oldendorf am Luhe, Germany in 1989, and the Sewall Wright Award of the Society of American Naturalists in 1997. He gave the third Tanner Lecture for the British Ecological Society in 1979, and was elected to the National Academy of Sciences in 1986. He has been a Vice President (1977–1978) and President (1979–1980) of ESA, and served on numerous editorial boards and National Research Council panels. Bob Paine has made a real difference in how ecologists view the world, and ESA is both privileged and honored to present the 2000 Eminent Ecologist Award to him.

*Eminent Ecologist Award Subcommittee: Deborah Goldberg (Chair), Steve Carpenter, Robert Holt, Pamela Matson, Judy Meyer, Bruce Menge, Steven Pacala, C. Richard Tracy*