
2007 Sustainability Science Award

Terry Yates and Colleagues



The Sustainability Science Award is given to the authors of a scholarly work that makes the greatest contribution to the emerging science of ecosystem and regional sustainability through the integration of ecological and social sciences. One of the most pressing challenges facing humanity is the sustainability of important ecological, social, and cultural processes in the face of changes in the forces that shape ecosystems and regions. This ESA award is for a single scholarly contribution (book, book chapter, or peer-reviewed journal article) published in the last 5 years. Nominees need not be ESA members and can be of any age, nationality, or place of residence.

The 2007 award is given to Terry Yates and colleagues for their paper “The ecology and evolutionary history of an emergent disease: Hantavirus Pulmonary Syndrome” (2002, *BioScience* 52: 989-998). Coauthors on the paper were J.N. Mills, C.A. Parmenter, T.G. Ksiazek, R.R. Parmenter, J. R. Vande Castle, C.H. Calisher, S.T. Nichol, K.D. Abbott, J.C. Young, M.L. Morrison, B.J. Beaty, J.L. Dunnum, R.J. Baker, J. Salazar-Bravo, and C.J. Peters.

The paper by Yates et al. addresses the intertwined ecological and human factors involved in disease emergence. Yates and his team studied the 1993 outbreak of hantavirus in the Southwestern U.S. Their work unraveled the linkages between the ecology of the disease vector, climate variability, landscape patterns, and human behavior. The research has been used to identify risk factors and provide warnings of outbreaks. The *BioScience* paper is a culmination and summary of many years of research from Yates and his team. There is a long list of publications from this research.

In addition to the practical applications of the research, their paper serves as an example of scientific analyses needed to link evolutionary history, trophic cascades, human exposure, climate variability, and landscape heterogeneity for other emerging diseases. Such approaches are critical for sustainability science and are beginning to be applied in public health. The work of Yates and his colleagues have conducted on hantavirus is often cited as an early example of a successful, multidisciplinary approach.

Terry Yates, first author and lead researcher on the research effort, passed away in December, 2007, at the age of 57 from brain cancer.