
Sustainability Science Award
Marten Scheffer¹, Steve Carpenter², Jonathan Foley², Carl Folke³,
and Brian Walker⁴

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The **Sustainability Science Award** of the Ecological Society of America recognizes the authors of the peer reviewed paper published in the past five years 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.

Unprecedented directional changes in climate, human population, technology and social and economic institutions alter the structure and functioning of current ecological and social systems. The Sustainability Science Award recognizes the role that science can contribute to addressing these challenges. This is the first year that the award is being given, and it will continue to be given annually.



Marten Scheffer



Steve Carpenter



Jonathan Foley



Carl Folke



Brian Walker

The subcommittee has selected Marten Scheffer, Steve Carpenter, Jonathan Foley, Carl Folke, and Brian Walker as the 2004 Sustainability Science Award winners for their paper:

Scheffer, M., S. Carpenter, J. Foley, C. Folke, and B. Walker. 2001. Catastrophic shifts in ecosystems. *Nature*, vol. 413: 591-596.

This review paper was selected because it clearly and succinctly presented the theoretical basis for conditions that would give rise to alternative steady states in ecosystems and evidence from multiple field studies that was consistent with this theory. For each of these studies the authors describe a range of factors that led to loss of resilience prior to the shift to a new state. By focusing on the determinants of resilience rather than the specific triggers that caused the change, it is likely that the results can be generalized more broadly.

Sustainability Science Award Subcommittee: Terry Chapin (Chair), Kathryn Cottingham, Erika Zavaleta, Garry Peterson, Gary Kofinas, Roz Naylor