

# **Hooper, D.U. et al (2005): ESA Report; Effects of biodiversity on ecosystem functioning: A consensus of current knowledge; Ecological Monographs, 75(1): 3-35, 2005**

Reference: Hooper, D.U., Chapin, F.S., Ewel, J.J., Hector, A., Inchausti, P., Lavorel, S., Lawton, H.J., Lodge, D.M., Loreau, M., Naeem, S., Schmid, B., Setälä, H., Symstad, A.J., Vandermeer, J. and Wardle, D.A.(2005): ESA Report; Effects of biodiversity on ecosystem functioning: A consensus of current knowledge; Ecological Monographs, 75(1): 3-35, 2005 by the Ecological Society of America

Short reference: Hooper et al (2005)

First author: Hooper D.U.

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## **Abstract**

Humans are altering the composition of biological communities through a variety of activities that increase rates and species extinctions, at all scales, from local to global. These changes in components of the Earth's biodiversity cause concern for ethical and aesthetic reasons, but they also have a strong potential to alter ecosystem properties and the goods and services they provide to humanity. Ecological experiments, observations, and theoretical developments show that ecosystem properties depend greatly on biodiversity in terms of the functional characteristics of organisms over space and time. Species effects act in concert with the effects of climate, resource availability, and disturbance regimes in influencing ecosystem properties. Human activities can modify all of the above factors; here we focus on modification of these biotic controls.

The scientific community has come to a broad consensus on many aspects of the relationship between biodiversity and ecosystem functioning, including many points relevant to management of ecosystems. Further progress will require integration of knowledge about biotic and abiotic controls on ecosystem properties, how ecological communities are structured, and the forces driving species extinctions and invasions. To strengthen links to policy and management, we also need to integrate our ecological knowledge with understanding this complexity, while taking strong steps to minimize current losses of species, is necessary for responsible management of Earth's ecosystems and the diverse biota they contain.

[environmental impact assessment](#)

[ecosystem services](#)

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