

---

# Nonindigenous Species: Ecological Explanation, Environmental Ethics, and Public Policy

DAVID M. LODGE\* AND KRISTIN SHRADER-FRECHETTE†

\*Department of Biological Sciences, University of Notre Dame, Notre Dame, IN 46556, U.S.A.,  
email lodge.1@nd.edu

†Department of Philosophy, University of Notre Dame, Notre Dame, IN 46556, U.S.A.

---

**Abstract:** *The public is getting a mixed message from ecologists, other scholars, and journalists on the topic of nonindigenous species. Misunderstandings and tension exist regarding the science, values, environmental ethics, and public policy relevant to invasive species, which are the subset of nonindigenous species that cause economic or environmental damage. Although there is a natural background rate at which species invasions occur, it is much lower than the current human-induced rates at which species are being moved around the globe. Contrary to some recently voiced opinions, the fact that some species invasions occur without human assistance does not confer acceptability on all species invasions. Also, despite claims to the contrary, the reductions of native biodiversity caused by nonindigenous species are large and well documented. Even if that were not true, an emphasis on species numbers alone as a metric for the impact of nonindigenous species does not adequately incorporate the high value many humans place on the uniqueness of regional biota. Because regional biota are being homogenized by species invasions, it has become an appropriate and official public policy goal in the United States to reduce the harm done by invasive species. The goal is not, however, a reduction of numbers of nonindigenous species per se, as recently claimed by some authors, but a reduction in the damage caused by invasive species, including many sorts of environmental and economic damage. A major challenge remaining for ecology, environmental ethics, and public policy is therefore the development of widely applicable risk-assessment protocols that are acceptable to diverse constituencies. Despite apparent disagreements among scholars, little real disagreement exists about the occurrence, effects, or public-policy implications of nonindigenous species.*