From Ants to Grizzlies: A General Rule for Saving Biodiversity

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Abbreviated Film Guide
Educator Materials

OVERVIEW

The short film *From Ants to Grizzlies: A General Rule for Saving Biodiversity* explores the species-area relationship — a general ecological principle, or "rule," that describes how the number of species in a habitat changes with area — and demonstrates how this knowledge has been applied to the conservation of protected areas. The film highlights the work of several scientists, including Edward Wilson and Daniel Simberloff, who tested the species-area relationship on mangrove islands; Kellen Gilbert, who studied how this relationship applies to forest fragments in the Amazon; and Jodi Hilty and Whisper Camel-Means, who are working to connect the fragmented habitats of large mammals.

Additional materials for the film can be found on the accompanying film activity webpage, including a "Student Handout" that probes students' understanding of the key concepts addressed in the film and "Educator Materials" that provide suggested pause points in the film with questions for students, background information, and detailed discussion points; a list of related resources and references; and an answer key for the "Student Handout."

KEY CONCEPTS

- The species-area relationship describes how the number of species that can be supported by a habitat increases as the area of the habitat increases.
- If the area of a habitat does not change, the (equilibrium) *number* of species in that habitat will remain stable in the long term. However, the *types* of species may vary over time.
- Many human activities are reducing the areas of natural habitats, which decreases the number of species they can support.
- Connecting habitats — for example, by using wildlife corridors or crossing structures — can increase their overall area, which increases the number of species that these habitats can support.
- Mathematical models can be used to describe, analyze, and project patterns in nature.

KEY REFERENCES

Hilty, Jodi A., William Z. Lidicker, and Adina M. Merenlender. *Corridor ecology: The science and practice of linking landscapes for biodiversity conservation.* Washington, DC: Island Press, 2006.

MacArthur, Robert H., and Edward O. Wilson. *The Theory of Island Biogeography.* Princeton, NJ: Princeton University Press, 1967.