DEER CAN THREATEN FOREST BIRDS

By Robin Meadows

Thanks to conservation efforts, U.S. deer densities are the highest in 100 years. But the downside is that too many deer may be bad for forest birds, according to new research in the August issue of Conservation Biology.

This is the first study showing that deer can drive at-risk bird species out of forests. The link is that deer determine which types of plants grow in the understory, which in turn determine the types of birds that live there.

“Large hooved mammals are landscape engineers and deer are the dominant herbivores in the eastern United States,” say William McShea and John Rappole of the Smithsonian Institution’s Conservation and Research Center in Front Royal, Virginia, who collaborated on this study.

In 1991 McShea and Rappole fenced white-tailed deer out of eight 10-acre plots in protected forests in both the Conservation and Research Center and Shenandoah National Park. The researchers assessed the abundance and types of understory vegetation in the plots in 1994 and 1997, and estimated the abundance and types of breeding birds in the plots by mist-netting yearly from 1990 through 1998.

The results showed that excluding deer shifted the understory vegetation from grasses to forbs (non-grass herbs) to Rubus species (the blackberry family) to woody shrubs. While bird diversity was constant through these shifts, the relative abundance of the 25 species that commonly nested in these forests varied considerably: 10 species increased while four declined.

Those that declined were resident birds (such as the tufted titmouse, blue jay and northern cardinal) that are stable or increasing in the U.S. Those that increased were migratory species (such as the hooded warbler and ovenbird) that are more at-risk based on factors including range-wide abundance and population trends.

While it is clear that managing deer can benefit at-risk bird species in eastern forests, McShea and Rappole recommend basing that management on the density of understory vegetation rather than on the density of the deer themselves. This is because deer at a given density can result in different vegetation densities, depending on factors including soil wetness and richness. Specifically, the researchers suggest monitoring orchids and lilies, which are common throughout the eastern U.S. and are sensitive to changes in deer densities.

THE INTERNATIONAL BIODIVERSITY OBSERVATION YEAR, 2001-2002

A year to focus global attention on biodiversity and observations of its status and trends is being planned for 2001-2002. The International Biodiversity Observation Year (IBOY) is an initiative of DIVERSITAS, the international program of biodiversity science sponsored by IUBS, SCOPE, UNESCO, ICSU, IGBP and IUMS. IBOY is endorsed by the XVI International Botanical Congress and the IUCN.

An international steering committee, chaired by Diana Wall and an advisory board is directing IBOY towards its primary goals, to:

- Promote and integrate biodiversity research, advancing a holistic understanding of biodiversity and its connections to ecosystems and societies;
- Educate the public about biodiversity, explaining the implications of biodiversity research for daily life and the opportunities for further discovery.

At the core of IBOY is a diverse portfolio of international research, informatics and education and outreach projects, addressing the questions: What biodiversity do we have and where is it? How is biodiversity changing? What
goods and services does biodiversity provide? How can we conserve biodiversity?

Projects can participate in the IBOY at two levels: Core Projects - over 40 projects, across more than 50 countries. Core Projects are international and will have a peak of activity and products during 2001 or 2002. They will be the focus of the IBOY’s publicity and synergistic activities.

Approved Projects - often smaller-scale projects. IBOY will highlight them through a web-based map and directory of biodiversity research and education projects occurring around the world in 2001 and 2002.

IBOY does not fund projects, but will highlight them, provide opportunities for networking and cross-collaboration, and explain their significance to a broad audience. IBOY meetings will bring scientific disciplines together to advance integrated research and will build bridges between science, education and the media to improve transfer of science-based information on biodiversity into public and policy spheres. Other synergistic activities being planned include a television series and accompanying educational materials, media campaign, publications, webpages and participation in national biodiversity events.

Proposals for projects are still being accepted. More information on how to get involved or details on projects can be found at http://www.nrel.colostate.edu/IBOY, or by contacting Dr. Diana Wall (IBOY Chair) or Dr. Gina Adams (IBOY Program Officer), Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO 80523-1499, USA. Tel: +1 970 491 1984; Fax: +1 970 491 3945; email iboy@nrel.colostate.edu.


**COURSES**

The Central American Institute for Biological Research and Conservation (a non-governmental, non-profit organization) promotes and develops scientific research in the areas of biology and conservation in the Central American Isthmus. The organization is currently offering three short training field courses in Costa Rica: “Multivariate Methods in Biology–2000” (starting: Oct 22; ending: Nov 5; application deadline: Sept 1); “Field Ecology–2001” (starting: 15 Apr 2001; ending: Apr 31, 2001; application deadline Jan 30, 2001); “Cladistic Phylogenetics–2001” (starting: Jan 21, 2001; ending: Feb 4, 2001; application deadline: Nov 24, 2000). More information including course cost and application procedures could be found at http://www.cibrc.freehosting.net or email academics@cibrc.freehosting.net.

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