Fauna in decline: The community way

CURRENT CONSERVATION STRATEGIES to mitigate the impact of climate change on terrestrial biodiversity rely heavily on capture, transfer, and release of single species (single-species translocation), despite the fact that ecological interactions between species are likely to be the first component of the ecosystem to be impacted by climate change (*1*) before any population or species goes extinct. In their Review ("Reversing defaunation: Restoring species in a changing world," 25 July, p. 406), P. J. Seddon *et al.* analyzed conservation translocations and emphasized the need for "more intensive forms of threatened species management." To conserve functioning ecosystems, management tools should focus on conserving whole communities rather than single charismatic species.

Ecosystem-scale translocation is one way to accomplish this goal: Aboveground and belowground elements of a functioning terrestrial ecosystem (including vegetation and topsoil) are carefully collected and moved together. Small-scale examples of ecosystem-scale translocation have been applied for 30 years for the purpose of ecological restoration under the name of habitat translocation or vegetation direct transfer (*2*–*5*). The strategy has proven successful in conserving plant, invertebrate, and microbial communities as well as ecosystem functions (*5*–*9*). By moving subsets of ecosystems from climatically unstable regions to more stable ones (*10*), ecosystem-scale translocation provides an opportunity to conserve mature and complex ecosystems threatened by climate change.

Stéphane Boyer

Department of Ecology, Bio-Protection Research Centre, Lincoln University, Lincoln, 7647, New Zealand. E-mail: stephane.boyer@lincoln.ac.nz

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Boreal forest in Yukon, Canada.

PHOTO: THINKSTOCK

Fauna in decline: Protect forests now

THE SPECIAL SECTION on Vanishing Fauna (25 July, p. 392) did an excellent job of highlighting the continuing global biodiversity erosion crisis ("Defaunation in the Anthropocene," R. Dirzo *et al.*, Reviews, p. 401) and progress in combating the crisis by using restoration techniques and translocation of animals ("Reversing defaunation: Restoring species in a changing world," P. J. Seddon *et al.*, Reviews, p. 406). However, the most effective, resource-efficient, and safe opportunities for slowing defaunation continue to be overlooked. We must maintain the world's last large remaining areas of intact habitat, including primary forest areas that remain mostly free of large-scale human development.

These primary forest areas have recently been mapped (*1*, *2*) and include the boreal forest regions of Canada, the United States, and Russia, and the tropical forests of the Amazon Basin, Congo Basin, and parts of Indonesia and Papua New Guinea. Canada's boreal forest accounts for approximately 25% of the world's remaining intact primary forest (*1*). Initiatives in Canada by provincial, indigenous, and federal government entities as well as industry have rapidly pushed forward the levels of protection, successfully setting aside about 450,000 km^2 of primary forest for conservation purposes over the past 15 years (*3*). Perhaps the greatest leaders in this effort have been indigenous communities and governments, who have developed comprehensive land-use plans and new management models for their ancestral lands that balance conservation and development (*4*).

Protecting the world's still-intact ecosystems, including primary forest, avoids the necessity for costly, difficult, and untested approaches to restore and translocate species and environments (*5*). All nations should be focused on protecting intact ecosystems now rather than hoping to restore them later.

Jeffrey V. Wells

International Boreal Conservation Campaign, Seattle, WA 98101, USA. E-mail: jeffwells@intlboreal.org

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ERRATA

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