dents; reductions of methylmercury in U.S. women of childbearing age; and IQ improvements in U.S. children. For each link, we used the best available evidence and, if anything, tended to err on the side of overstating benefits. Only at the end did we monetize estimates of IQ improvements, based on a study of parental willingness to pay for IQ increases through chelation.

Zeller and Booth contend that our estimate of the benefits of mercury reduction is "grossly understated" based on their claim that our estimate of the value of an IQ point is flawed. They cite a study by Trasande *et al.* (*1*) claiming that benefits of mercury reduction are $1.3 billion per year. Unfortunately, they are comparing apples with oranges. The $1.3 billion estimate (*1*) is for the benefits of eliminating all U.S. power plant mercury emissions. Zeller and Booth apply this annual measure of complete elimination of power plant mercury emissions to each year from 2005 to 2020. It is incorrect to compare the costs of EPA's regulation that eliminates a fraction of the power plant emissions to the benefits of eliminating all power plant emissions of mercury (which would cost considerably more to achieve).

Zeller and Booth suggest that the monetized benefits we use for IQ may be understated. We agree that the willingness-to-pay numbers for IQ may understate the benefits of IQ. The value of an IQ point suggested by Trasande *et al.* (*1*) is about an order of magnitude greater than our estimate. However, as we noted in our Letter, using their estimate does not change our finding that the costs of the regulation are likely to exceed benefits.

Zeller and Booth's claim of mercury's detrimental effects might be overstated. They cite Grandjean *et al.*'s study (*2*) of the Faroe Islands to support their claim that the detrimental effects of mercury are "known." They do not mention a study of the Seychelles (*3*) that did not find evidence of such a link and a study in New Zealand (*4*) that found mixed evidence. Even Grandjean *et al.* (*2*) found mixed results for the relationship between mercury and IQ scores. Nonetheless, we used conservative estimates of the IQ-mercury relationship even when they are not statistically different from zero.

We think that policy-makers should design regulations for controlling mercury emissions so that expected benefits exceed expected costs. The current approach fails that test.

TED GAYER[1] AND ROBERT W. HAHN[2]

[1]Public Policy Institute, Georgetown University, 3520 Prospect Street, NW, Washington, DC 20007, USA. [2]American Enterprise Institute–Brookings Joint Center, 1150 17th Street, NW, Washington, DC 20036, USA.

References

1. L. Trasande, P. J. Landrigan, C. Schechter, *Environ. Health Perspect.* **113**, 590 (2005).
2. P. Grandjean *et al.*, *Neurotoxicol. Teratol.* **19**, 417 (1997).
3. G. J. Myers *et al.*, *Lancet* **361**, 1686 (2003).
4. T. Kjellstrom *et al.*, *Physical and Mental Development of Children with Prenatal Exposure to Mercury from Fish. Stage 2: Interviews and Psychological Tests at Age 6* (National Swedish Environmental Board, Solna, Sweden, 1989).

Landscape Corridors: Possible Dangers?

THE REPORT "EFFECTS OF LANDSCAPE CORRIdors on seed dispersal by birds" (1 July, p. 146) by D. J. Levey *et al.* shows that landscape corridors increase the movement of birds between patches of habitat in a fragmented landscape, and that this facilitates the movement of bird-dispersed seeds. Another study, in the same experimental setting, found that corridors increase interpatch insect pollination (*1*). Both studies conclude by emphasizing the conservation value of habitat corridors. However, landscape corridors also facilitate the spread of

invasive alien species (*2*). Although the potential negative effects of habitat connectivity were stated almost two decades ago (*3*), these seem to have been largely ignored in the evaluation of corridors as a conservation tool.

Alien plants with attractive flowers and fruit can hijack generalist pollinators and seed dispersers from indigenous plant species (*4*). By increasing alien propagule pressure, invasive species outcompete and replace local biota (*5*). Indeed, the spread of invaders is often facilitated by corridors, either natural (rivers, coastlines, ridges) or man-made (roads and railways). In this context, it is worth mentioning that all the plants considered in the South Carolina studies [Levey *et al.*; (*1*)] are aliens of concern in parts of the world [*Lantana camara* (*6*), *Rudbeckia hirta* (*7*), *Morella* (=*Myrica*) *cerifera* (*8*)]. Moreover, the Eastern Bluebird (*Sialia sialis*) that dispersed *Morella* seeds is also known to disperse seeds of the alien tree *Sapium sebiferum* in the eastern United States (*9*).

Presently, land managers are advised to build habitat corridors to reduce the effects of habitat fragmentation, but habitat barriers are also built to manage the spread of invasive species (*10*). It is ironic that habitat corridors do not always link the seemingly separate fields of conservation and invasion biology. Both habitat fragmentation and invasive species have resulted in the loss of large sections of biodiversity, and their combined impacts must be better understood. The modeling tools developed in the present study present a useful opportunity for developing a more integrated approach to the evaluation of corridors as a conservation management tool.

ŞERBAN PROCHEŞ, JOHN R. U. WILSON, RUAN VELDTMAN, JESSE M. KALWIJ, DAVID M. RICHARDSON, STEVEN L. CHOWN
Centre for Invasion Biology, Department of Zoology and Botany and Department of Conservation Ecology, University of Stellenbosch, Matieland 7602, South Africa.

References

1. P. A. Townsend, D. J. Levey, *Ecology* **86**, 466 (2005).
2. D. A. Saunders, R. J. Hobbs, Eds., *Nature Conservation 2: The Role of Corridors* (Surrey Beatty & Sons, Chipping Norton, Australia, 1991).
3. D. Simberloff, *Annu. Rev. Ecol. Syst.* **19**, 473 (1988).
4. D. M. Richardson, N. Allsopp, C. M. D'Antonio, S. J. Milton, M. Rejmánek, *Biol. Rev.* **75**, 65 (2000).
5. J. L. Lockwood, P. Cassey, T. Blackburn, *Trends Ecol. Evol.* **20**, 223 (2005).
6. See www.gisp.org.
7. J. S. Meidell, H. L. Oppenheimer, R. T. Bartlett, *Bishop Mus. Occ. Pap.* **49**, 17 (1997).
8. E. U. Zajac, *Monogr. Bot.* **40**, 1 (1974).
9. I. J. Renne, W. C. Barrow, L. A. J. Randall, W. C. Bridges, *Div. Distrib.* **8**, 285 (2002).
10. K. A. With, *Conserv. Biol.* **16**, 1192 (2002).

Response

PROCHEŞ *ET AL.* POINT OUT THAT CORRIDORS may increase the spread of exotic species. We agree that the function of corridors is blind to the geographic origin of species that use them.

Turn to page 875

The issue before conservation biologists and land managers, however, is not whether corridors are without costs, but whether they provide a net benefit in the maintenance of natural communities. In this context, it is important to keep in mind that the benefits of habitat corridors to native species have been clearly demonstrated, whereas their impact on the spread of exotic species is largely conjectural.

Rather than debating the potential drawbacks of corridors, scientists should focus attention on understanding how corridors function and which types of species are most likely to benefit from them. For example, because invasive species are excellent dispersers (by definition), corridors may not further increase their successful colonization of new habitat patches. On the other hand, many native species of conservation concern have limited dispersal abilities and therefore would be more likely to benefit from corridors.

Understanding corridors at a mechanistic level will better enable us to extrapolate their effects from well-studied species and small spatial scales to less-known species and landscape scales; our paper aimed toward this goal.

DOUGLAS J. LEVEY,[1] BENJAMIN M. BOLKER,[1] JOSHUA J. TEWKSBURY,[1]* SARAH SARGENT,[2] NICK M. HADDAD[3]

[1]Department of Zoology, University of Florida, Post Office Box 118525, Gainesville, FL 32611–8525, USA. [2]Department of Biology, Allegheny College, Meadville, PA 16335, USA. [3]Department of Zoology, North Carolina State University, Raleigh, NC 27695–7617, USA.

*Current Address: Department of Biology, Box 351800, University of Washington, Seattle, WA 98195–1800, USA.

TECHNICAL COMMENT ABSTRACTS

COMMENT ON "A Brief History of Seed Size"

Peter J. Grubb, David A. Coomes, Daniel J. Metcalfe

Moles *et al.* (Reports, 28 Jan. 2005, p. 576) suggested that larger plants have larger seeds because larger offspring offset the lower survivorship to adulthood inherent in longer juvenile periods. However, that view is not consistent with the wedge-shaped relationship between log seed size and log plant height. Most importantly, the range of feasible seed sizes increases dramatically with whole-plant size.

Full text at www.sciencemag.org/cgi/content/full/310/5749/783a

RESPONSE TO COMMENT ON "A Brief History of Seed Size"

Angela T. Moles, David D. Ackerly, Campbell O. Webb, John C. Tweddle, John B. Dickie, Mark Westoby

Mechanical constraints might prevent small plants from making very large seeds. However, data for 2589 species reveal an absence of large plants that make very small seeds. This cannot be explained by mechanical constraint. Coordination of life history traits provides a more plausible explanation for the overall shape of the relationship between seed mass and plant size.

Full text at www.sciencemag.org/cgi/content/full/310/5749/783b

Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the previous 6 months or issues of general interest. They can be submitted through the Web (www.submit2science.org) or by regular mail (1200 New York Ave., NW, Washington, DC 20005, USA). Letters are not acknowledged upon receipt, nor are authors generally consulted before publication. Whether published in full or in part, letters are subject to editing for clarity and space.