

WORKING DOGS
FOR CONSERVATION

WILL CONSUMERS PAY FOR
WATERSHED SERVICES IN MEXICO?

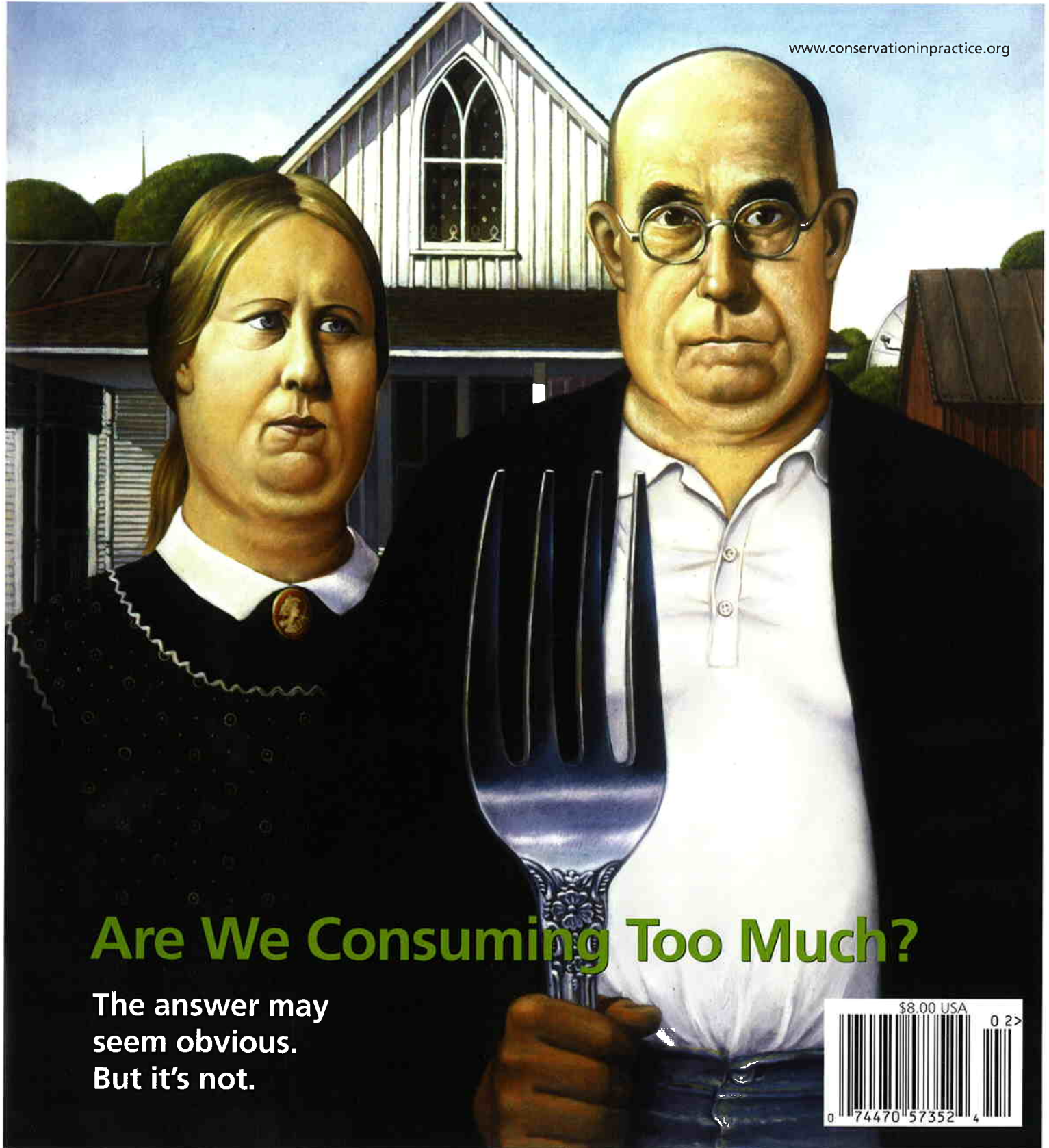
CONSERVATION ON
THE **URBAN FRINGE**

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Are We Consuming Too Much?

The answer may
seem obvious.
But it's not.



Projected Extinctions Threaten Vital Ecosystem Services



Three-wattled bellbird (*Procnias tricarunculata*). Photo by Gary H. Rosenberg at Monteverde, March 2001

Sekercioglu, C., G. Daily, and P. Ehrlich. 2004. Ecosystem consequences of bird declines. *Proceedings of the National Academy of Sciences* 101(52):18042-18047.

When it comes to endangered species, there's much more at stake than biodiversity. The many ecosystem services that animals provide are also at risk. A new analysis projects that one-fourth of bird species will become so scarce over the next century that they might as well be extinct, thereby disrupting vital services—from dispersing seeds to controlling pesky insects to scavenging animal carcasses.

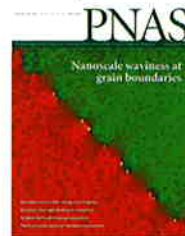
“[This is] a critical and vastly underappreciated dimension of extinction—the degradation of the ecological roles played by species as they slip toward extinction,” says Kent Redford, Director of the Wildlife Conservation Society Institute in Bronx, New York. This work is reported by Cagan Sekercioglu, Gretchen Daily, and Paul Ehrlich of Stanford University in California in the December 28, 2004, issue of *Proceedings of the National Academy of Sciences*.

Sekercioglu and his colleagues focused on birds because they are the best-

known group of animals. Partly on the basis of IUCN (World Conservation Union) extinction probabilities for the next century, the researchers compared current and expected distributions of threatened birds by functional group (such as fruit- or fish-eaters), habitat (such as forest or wetland), and region (such as Indomalayan or Neotropical).

Worldwide, the bird population is estimated to have dropped by roughly one-fifth since 1500. By 2100, the researchers expect that as many as one-fourth of bird species will be functionally extinct and thus barely contribute to ecosystem processes; they also expect that another one-fourth will be functionally deficient and thus contribute significantly less to ecosystem processes. The researchers found that more than 600 of the 9,787 bird species are functionally extinct and another roughly 2,000 are likely to become functionally extinct during the next century. Some functional groups are more at risk than others. At the low end, about one-sixth of bird species that eat nectar or seeds are extinction-prone; at the high end, nearly two-fifths of scavenger species are extinction-prone.

“Important avian guilds are in rapid decline, and consequent reductions in ecosystem services are likely,” say Sekercioglu and his colleagues. Potential ecological consequences include extinctions of plants that depend on birds for pollination and seed dispersal, increases in the numbers of insect pests, increases in crop damage, and spread of human dis-



eases via rotting animal carcasses.

Sekercioglu notes that, although their work has been covered by the mainstream media, most attention has focused on bird extinctions rather than

on the loss of the ecosystem services they provide. Even so, the media splash may have brought the ecological consequences of wildlife declines to the attention of policy makers: Connecti-

cut Senator Joe Lieberman, a Democratic member of the U.S. Senate Committee on the Environment and Public Works, has requested a copy of this paper. ❧

African Wild Dogs May Pay Their Own Way



African wild dog (*Lycaon pictus*). ©2005 Mitchell Silver www.mauzi2000.com

Lindsey, P.A. et al. 2005. The potential contribution of ecotourism to African wild dog *Lycaon pictus* conservation in South Africa. *Biological Conservation* 123(3):339-348.

Ecotourism may be part of the key to conserving Africa's endangered wild dogs (*Lycaon pictus*). A new study shows that park visitors are willing to pay a premium for seeing the dogs in their dens, suggesting that this charismatic species could raise funds to help save itself.

"Tourism revenue from wild dogs in large protected areas is more than sufficient to offset the costs and could potentially be used to subsidise wild dog reintroductions or the conservation of wild dogs on ranchland," say Peter Lindsey, Johan du Toit, and Gus Mills

of the University of Pretoria, South Africa; and Robert Alexander of Sweet Briar College, Virginia; in the June 2005 issue of *Biological Conservation*.

South Africa has perhaps 400 wild dogs out of an estimated 5,700 total, and recent conservation efforts have focused on reintroducing them into reserves. Although reintroductions are costly, carnivores are so popular that the dogs might be able to secure their own funds if enough people would pay to see them. Tourists are likely to get their money's worth because the big-eared, dappled dogs are generally easy to find during the winter, when they stay near their puppies' dens.

To see whether ecotourism could offset the costs of reintroducing wild dogs, Lindsey and his colleagues assessed how much tourists would pay for tours to wild dog dens at four reserves in South Africa (Kruger and Pilanesberg National Parks and Djuma and Ngala Game Reserves). The researchers also estimated the finances of combining ecotourism operations with conserving wild dogs in Kruger National Park as well as on ranchland and with reintroducing the dogs to fenced reserves.

Most of South Africa's remaining wild dogs live in Kruger National Park, and the survey indicated that nearly three-quarters of the tourists there were willing to pay US\$12 extra to see the dogs. The researchers calculated that the annual ecotourism income from a ten-dog pack (about US\$9,000) would more than cover the annual costs of conserving the park's entire population of 21 packs (less than US\$5,000).

Moreover, the park attracts so many visitors that they could fill tours to see several packs, suggesting that ecotourism operations could raise enough money to conserve and reintroduce wild dogs elsewhere.

Although promising, ecotourism is not without risks to this endangered species and would thus require monitoring. Wild dogs tolerate people up to a point but will move their young when disturbed, making the pups vulnerable to predators, including lions (*Panthera leo*)

