

'Marketing' species conservation

Financial incentives can be found to conserve a species threatened by trade.

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The difficulties of reconciling international trade with its environmental impacts were memorably highlighted recently by street demonstrators at the World Trade Organization meeting in Seattle. This outcry, however, was only the latest in a long line of attempts to protect at-risk species and ecosystems from the ravages of the market. As delegates from around the world leave this month's meeting of the Convention on International Trade in Endangered Species (CITES) in Nairobi, has any progress been made in resolving this dilemma?

Unfortunately, although regulatory protections were increased for some important species, for many others the issue remains unresolved. In fact, despite consumer boycotts and international agreements such as CITES, most efforts to promote more sustainable use of natural resources have failed, often for the same reason — they have not provided direct incentives for conservation. However, recent examples of conservation agreements and land purchases are concrete evidence that direct financing can be a viable and cost-effective approach to conservation.

The case of mahogany

The New World mahoganies (*Swietenia* spp.) provide a telling example of the difficulties encountered in conserving commercially important species. Mahogany, a highly valued hardwood, has been traded in the western world for more than 500 years. However, throughout this period, trade has been maintained not by sustainable production but by



Just one commercially viable species now remains to maintain the 500-year-old mahogany trade.

continuous local depletion and shifting sources of supply¹. As early as 1735, mahogany was becoming scarce in Jamaica and operations were shifting to Central America. The Caribbean species (*S. humilis* Zucc.) and Pacific coast species (*S. mahagoni* L. Jacq.) are now commercially extinct; nearly all current production is from a third species (*S. macrophylla* King) in South America².

Much time and effort have been devoted to promoting the adoption of more sustainable management practices, with some effect in temperate forests. But loggers in the tropics have generally chosen not to adopt sustainable management³ because, with limited financial incentive and government oversight, conventional logging is more attractive. Sustainable-management policies with

their harvest restrictions are more costly and hence less profitable to local industry than is conventional logging⁴. Government regulation and campaigns by non-governmental organizations may ultimately achieve a situation where sustainable logging is more widely adopted in the tropics, but this is unlikely to be in time to help mahogany and many other species at risk.

Although CITES has been quite effective for some species, such as elephants and whales, it has done disappointingly little to help the conservation of mahogany and other timber species. Despite a rapidly shrinking commercial range, poor regeneration following harvest, and an almost complete absence of control of logging, efforts to list mahogany as a protected species on CITES (Appendix II) have failed — not once but three times.

Objections to the listing have ranged from claims that international trade does not threaten the species, to the view that CITES should not or cannot control the timber trade, or even that trade restrictions might prove counterproductive. A more significant obstacle, though, is the conflict of interest that arises when a country votes on conservation measures that directly affect trade in a species from which it benefits financially. Whatever the causes, the failures at CITES and the pressure for profit from mahogany have been so effective a deterrent to conservation that listing mahogany was not even on the agenda at Nairobi.

The ineffectiveness of international agreements has led some environmentalists to encourage boycotts. In the early 1990s, for example, the "Mahogany is Murder" campaign led by the UK Friends of the Earth



The pressure for profit from mahogany has significantly undermined conservation efforts.

focused world attention on unsustainable logging and deforestation, and over a five-year period, UK imports of mahogany were reduced by 95% (ref. 5). Although enormously successful in that one country, the effect of the boycott has now been almost completely offset by increased consumption in the United States. For boycotts to work, they must affect the majority of importing countries, with few or no alternative markets available. In the case of mahogany, even a global boycott would not solve the problem because it would provide no direct incentive for mahogany conservation. The species would still be subject to harm from logging for other species, and to pressures to convert forests to other uses.

Financial incentives

The lesson from the shortfalls of CITES, boycotts and sustainable management in protecting mahogany is that conservation must be the direct objective of policy, rather than a desired by-product, to ensure that trade does not threaten valuable species. Even more important, policies must provide a positive inducement to drive the widespread adoption of conservation. Existing initiatives now require that resource owners conserve for no reward, or even at a net cost, but only tangible incentives for conservation will induce local communities, organizations or countries to implement concrete efforts to conserve species of economic importance.

How might such a strategy be implemented? Perhaps the simplest, most effective approach is to finance a 'safety net' of protected populations. Two recent examples from Bolivia demonstrate that feasible options exist for affordable ways to finance the protection of mahogany.

First, in 1998, The Nature Conservancy, an international conservancy group, doubled the size of Bolivia's Noel Kempff Mercado National Park by acquiring the logging rights to 630,000 hectares of adjacent timber concessions for only US\$2.50 per ha. Here, isolated forests containing remnant adult populations and stands of pre-commercial mahogany trees were bought very cheaply. Second, Conservation International last year bought the logging rights to a 45,000-ha concession that was later added to Madidi National Park for \$2.22 per ha. Both transactions gave the owners concrete financial incentives and resulted in the protection not only of mahogany but also of countless other species.

Conservationists are pioneering other mechanisms for funding the protection of endangered species on community and indigenous lands. One model is the recent landmark arrangement between six environmental organizations and a small community in Mexico by which the Cebadillas community will receive \$250,000 over 15 years to preserve the nesting habitat of the western thick-billed parrot (*Rhynchopsitta pachy-*



For mahogany, a global boycott on trade would provide no direct incentive for its conservation.

rhyncha). The area, 2,400 ha of old-growth forest in Northern Chihuahua, comprises about 50% of the remaining nesting habitat for the parrot and will help ensure the species' long-term survival.

This innovative agreement shows that landowners can be given a direct incentive to protect their forests when they obtain sufficient income from conservation. One of Brazil's largest remaining intact populations of mahogany, in the Kayapo indigenous territory, is appropriate for this kind of incentive.

Money for conservation

We believe that such initiatives can be easily financed. The public is very willing to fund environmental protection: in 1999, for example, The Nature Conservancy generated \$700 million to acquire and protect habitats in the United States and elsewhere. In January, Broward County in Florida proposed spending \$400 million to buy 1,270 ha of natural habitats and farmlands at roughly \$157,000 per ha. These examples suggest that plentiful funding should be available for conserving species such as mahogany that have a high international profile. Further, as suggested by the Latin American examples, conservation can cost much less than is commonly believed.

Direct intervention is not likely to be welcomed by everyone. Foreign funding could be seen as a form of neocolonialism, and some would argue that the most appropriate role of conservationists is to persuade the market to accept timber only from sustainably managed forests. However, in our view, paying for direct protection is simply a practical means of compensating those who conserve resources of global importance. Directly financing protection, moreover, can reinforce alternative approaches to conservation such as sustainable management, by providing a powerful hedge against their failure. If boycotts, sustainable use and CITES continue to be ineffective for mahogany, the future of the species can still be secured by protecting viable populations in nature reserves.

In this way, direct financing of protection

follows the 'precautionary principle', an environmental-protection strategy that is receiving much backing in international legal agreements. The precautionary principle requires that prudent measures be taken to avoid the risk of irreversible damage such as the loss of a species. In the case of mahogany, a safety net of protected populations would greatly reduce the risk of irreversible damage from continued exploitation.

We feel there is an urgent need to reconsider how CITES and other mechanisms work to ensure the conservation of commercial species. To take mahogany as an example, although the signatories to CITES have again failed to list the species on Appendix II, a group of technical experts is to study its situation more closely. We suggest that this working group focuses on identifying remaining intact populations and determining the minimum critical size of viable populations that should be protected.

CITES cannot be effective alone, however. Local and national governments, conservation organizations and the private sector must also help to transfer funds from those who value species such as mahogany to those who are best able to conserve representative populations but who need incentives to do so. ■

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1. Lamb, F. B. *Mahogany of Tropical America: Its Ecology and Management* (Univ. Michigan Press, Ann Arbor, 1966).
2. Rodan, B. R., Newton, A. C. & Verissimo, A. *Environ. Conserv.* **19**, 331–342 (1992).
3. Bowles, I. A., Rice, R. E., Mittermeier, R. A. & da Fonseca, G. A. B. *Science* **280**, 1899–1900 (1998).
4. Pearce, D., Putz, F. & Vanclay, J. K. *A Sustainable Forest Future* (CSERGE Working Pap. GEC 99-15, Univ. College London, 2000).
5. Schwartzman, S. & Kingston, M. *Global Deforestation, Timber, and the Struggle for Sustainability* (Environmental Defense Fund, New York, 1997).