

**(Less and less) great expectations**

Explore the Caribbean today and you will be very lucky to encounter more than a handful of large vertebrates. The monk seal is probably extinct, and the manatee nearly so. Green turtles number in the low tens of thousands, yet are rarely seen. But step back a few hundred years, and the Caribbean supported tens (perhaps hundreds) of millions of green turtles. They were so numerous that fog-bound sailors could navigate by following the sounds they made swimming to their nesting grounds. Other impressive species—hawksbill turtles, manatees, monk seals, sharks, rays and large groupers—were at least as abundant as their ecological equivalents are nowadays in the Serengeti. The almost complete elimination of this spectacular concentration of large animals is due to persistent and severe overexploitation that began with the arrival of Columbus. By the time reef ecology got under way in the region in the late 1950s, most of these megaver-tebrates were already nearing ecological extinction.

This chilling history of an ecological holocaust, pieced together from, among other sources, the records of 17th century pirate naturalists, appeared a couple of years ago in a remarkable paper by marine biologist Jeremy Jackson (Jackson, 1997). From it, he draws two important messages. First, there is probably no such thing as a pristine reef: ecologists working in the Caribbean are trying to understand the workings of a machine most of whose larger components were lost long ago. Second, and no doubt of interest to many readers of *Oryx*, for Jackson the thoroughness and the long history of the Caribbean wipeout, first of the megavertebrates, and now of most edible fish, argue forcefully against the notion of conserving the area's remaining resources through sustainable exploitation. Instead, very large areas excluding any form of offtake must be established if the Caribbean's remaining reefs and seagrass beds are to persist in anything like their current form.

But for me the paper also raises a third, more philosophical issue. As biodiversity becomes ever more eroded, so too do our targets for its conservation. Probably no one working in the Caribbean today would argue for attempts to restore the turtle and manatee populations to pre-Columbian levels: rebuilding a wildlife spectacle of Serengeti-like proportions is simply not practical in a system fringed by tens of millions of people. But in the face of the ongoing loss of biological resources, what happens to the boundary between hopeless causes and worthwhile cases? In the

Caribbean, should we go one stage further and give up on the turtles and manatees altogether? After all, they are already extinct ecologically, and reversing their fortunes would take a huge conservation effort. Looking further ahead, should we start abandoning attempts to conserve even the corals, and the fish and invertebrate communities that inhabit them? Should we always be prepared to shift our expectations downwards? Or should we stick to absolute goals? If so, what should these be?

There are obviously no straightforward answers. But the issue of diminishing expectations is real. The themes raised by the Caribbean example have recently been echoed in an eloquent but haunting catalogue of the eradication of the megafauna of California's kelp forests (Dayton *et al.*, 1998). In fisheries, the phenomenon is termed the 'shifting baseline syndrome' (Pauly, 1995; Sheppard, 1995). According to this, successive generations of fisheries scientists take as their baseline the size of the fishery that they encountered at the start of their careers. Historical data are ignored, declines often go unnoticed, and even successful management (if indeed it exists in fisheries) aims to hold populations at present-day levels—vastly below those which might maximize sustainable offtake. Repeated downwards recalibration of the baseline leads populations to dwindle to the point of commercial extinction, their decline accelerated by both a failure to appreciate the scale of earlier losses, and a willingness to accept maintaining the current status quo as a management goal.

By analogy, endlessly downgrading our conservation expectations may leave us fighting for remnant scraps of biodiversity, which, even if protected from direct human impacts, may be ecologically or evolutionarily moribund. We may do far better to keep our expectations relatively ambitious. The key to achieving this, as with so much else in conservation, will lie in education.

Our expectations are always conditioned by our experiences (for instance, given a bedtime fare of stories in which 4-year-olds routinely encounter bears, my young son wonders why we don't see them in intensely managed woods near our home). At the other extreme, a colleague of mine once remarked that he found the greatest and most depressing problem in conservation was not habitat loss or overexploitation, but the growing tide of human indifference. Ultimately, we are losing wild creatures and wild places because we don't care enough about them.

As humanity becomes even more disconnected from the natural world, there is a real danger that to most people biodiversity becomes simply an urban badger or

raccoon, or a kestrel hovering above a motorway. So long as these familiar species are still around, who cares if the Caribbean monk seal, the short-haired bumblebee or the bay checkerspot butterfly have gone extinct? They no longer matter, because they have long since ceased to be part of the general public's experience of the environment around them.

If we are to reverse this depressing picture, one of our main jobs as conservationists must be to ensure that what we still have now is more widely enjoyed and valued by the public, so that, in turn, people want to keep it for their children to experience. Achieving this in the developed world, where people can afford to care but increasingly do not, will be difficult enough; achieving it in developing countries, where caring about nature is often perceived as an unaffordable luxury, will be harder still. Maintaining high expectations will inevitably lead to disappointments, but the alternative, of continually revising our expectations downwards and in due course

fighting for just a shred of biodiversity will inevitably mean that before long that is all we have left.

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