



Charismatic Megafauna

Focusing public attention and conservation efforts on large, popular endangered animals—charismatic megafauna—has been seen as a way of obtaining funding for projects and of blazing trails for the conservation of less popular species and their habitats. Detractors argue, however, that this approach diverts resources away from more deserving causes and neglects the vast majority of species that are neither large nor popular.

The term *ecosystem management* implies a holistic approach to nature conservation—in other words, managing ecosystems as a whole to achieve the goal of sustainable living. One might assume that all life forms—vertebrate and invertebrate animals, plants, fungi, and microorganisms—feature in the management strategies of nature conservation agencies and in government decisions. But the realities of politics and community perceptions often narrow the way public policy issues are approached, and in the area of nature conservation the focus frequently contracts to a few large, well-known animal species (such as the koala shown above in a photograph by Daniel Lunney). What is it about the nature of ecosystem management that makes it subject to public preference for so-called charismatic animals, and does this mean that it is a popularity contest, pandering to public appeal, and what kind of strictures are ecosystem managers under? These are critical governance issues, and if not discussed, they become the elephant in the room.

The phrase *charismatic megafauna* refers to large, well-known animal species that gain a disproportionate share of the public's attention. The context for this term is that much of the world's wildlife is declining

or becoming endangered, and increasing numbers of species are heading for extinction, as is evident from such sources as the United Nations Millennium Ecosystem Assessment's biodiversity report (2005) and the frequent reports on the status of the world's wildlife by the International Union for Conservation of Nature. The growing size of the human population is placing demands on the world's ecosystems, and wildlife is being hit hard. Media and conservation organizations often publicize this message through the examples of a small suite of well-known endangered animals, mostly large mammals—the so-called charismatic megafauna. The question arises: is focusing on charismatic megafauna helpful to wider sustainability efforts?

What Is Charismatic Megafauna?

The Australian Macquarie Dictionary defines *charisma* (a Greek word, meaning gift) as “the special personal qualities that give an individual authority over a large number of people; ability to influence or impress people.” The same dictionary defines *fauna* as “the animals of a given region or period, taken collectively.” Fauna commonly refers principally to vertebrates (animals with backbones), although its meaning clearly includes the vast array of insects, mollusks, and other animals without backbones. Because of this slant toward vertebrates, the term *charismatic megavertebrate* is also commonly used. Zoologists customarily classify vertebrates into five groups: mammals, birds, reptiles, amphibians, and fishes. It follows that megavertebrates are large animals from these groups, such as elephants, whales, eagles, crocodiles, bullfrogs, or sharks.

Big, Popular Mammals

An early reference to charismatic megavertebrates appears in “Saving ‘Charismatic’ Animals,” an article published in the 22 April 1985 issue of *Newsweek* magazine. It both defines the concept, with examples, and presents a case for its use by one of the world’s leading conservation biologists, Edward O. Wilson. Wilson’s specialty is the study of ants, and thus his support for the concept lends extra weight in those zoological circles that complain that popular vertebrates steal the limelight in the conservation debate.

The latest tactic acknowledges that public support cannot be mobilized to save the snake mite—or thousands of other homely beasts. Instead, within the past year many wildlife conservationists have forged a policy of preserving and promoting “charismatic megavertebrates,” the pandas, tigers, okapis and other glamorous rarities that rivet public sentiment. If this is a rude repudiation of the conservation purist’s all-or-nothing creed, it’s also a deftly plotted political practicality. “There is a sense of mission now, and of encouragement,” says eminent Harvard zoologist Edward O. Wilson. “Our most easily appreciated species can call attention to the plight of our entire ecosystem.” (“Saving ‘Charismatic’ Animals,” 10)

In this application of the strategy, the charismatic megafauna are employed for the conservation benefit of all other species and, in fact, entire ecosystems. Environmental problems, such as habitat loss and fragmentation, pollution, introduced species, and climate change impacts, affect all species. Charismatic animals allow us to publicize these generic sustainability issues and to explore, with popular support, ways of countering their effects, to the benefit of all wildlife that suffer the same problems and utilize the same geographical areas. Furthermore, protecting popular species and their habitats helps us conserve a habitat network across landscapes, to the benefit of all fauna. The conservation zoologist Norman Myers (1996) points out that once large vertebrate species are lost, the opportunities for new large vertebrate species to evolve will also be lost in a planet much modified by human activities.

The *Newsweek* article names three species, describing them as “glamorous rarities.” The panda is arguably the best-known glamorous rarity, a pin-up charismatic megavertebrate. In a 1998 editorial in the journal *Oryx*, Jacqui Morris observes that mammals make up a relatively small proportion of the world’s fauna, yet over the previous decade, half of the papers published in *Oryx* had mammals as their primary focus. Morris notes that, in the

opening paper of that 1998 edition of *Oryx*, Jeffrey McNeely makes a plea to find new ways of conserving mammals beyond research, survey, and anti-poaching, saying that mammal conservationists need to tackle underlying issues such as habitat destruction, overexploitation, and introduced species. Morris thus points to the tension of highlighting individual species versus addressing root causes.

This theme became the subject of a book by Abigail Entwistle and Nigel Dunstone, *Priorities for the Conservation of Mammalian Diversity—Has the Panda Had Its Day?* (2000). The book notes that, since recent analyses have shown that about a quarter of all mammal species are threatened with extinction, the conservation movement is moving rapidly away from a traditional “protectionist” approach to nature toward a more integrated view of wildlife and landscape conservation. The British magazine *The Economist* ran an article on 7 January 2008 entitled “Branding Land: Conservation Marketers Choose Land over Beast,” which makes the point that although conservation organizations have long understood the fund-raising value of charismatic megafauna, the money raised to save these animals often cannot be spent on broader conservation goals. The article discusses an alternative response adopted by the Zoological Society of London, which is to focus on “evolutionarily distinct and globally endangered” (EDGE) species. These species, the article notes, are “rarely cuddly” and may “look quite weird,” but they are often the last representative of an entire animal group. EDGE species—which include the duck-billed platypus, the long-beaked echidna, the armadillo, and the dugong—may not be considered endangered, but it can be argued that because they are rare from an evolutionary standpoint, conservation action should be undertaken before they become endangered.

All Creatures Great and Small

While the public presses for iconic species to be protected, government resources are often narrowly focused on threatened species for research and conservation effort, to the neglect of the far greater number of species that are not listed as threatened. It is important for managers working to maintain biodiversity to have statistically workable numbers to determine the impacts of change, such as from logging, fire, and climate change. The animals that provide the most effective answers are the common species, and often the least charismatic, such as native bush rats. Few people are keen to hear about the ecology of rats, even though they provide insights for conservation of certain ecosystems, such as forests or riparian strips (riverbank

habitats), which rare animals never can. In contrast, an investigation on the remediation of rural lands for koala conservation was given detailed television coverage in Australia on 14 April 2011, when the recovery of the koala population was set back sharply by climate change (Lunney et al. 2012). The native rats would not have gained the coverage, and they do not attract the funding dollars.

The article in *The Economist* (“Branding Land” 2008) notes the value of so-called flagship areas—that is, entire regions identified as threatened and worthy of protection. For example, Conservation International, based in Arlington, Virginia, has designated a number of flagship areas, including the tropical Andes, the Brazilian Atlantic forests, and Africa’s Cape floristic region. The World Wide Fund for Nature, based in Gland, Switzerland, has also identified what it calls “global ecoregions.” Money raised as a result of designating flagship areas can be used for a variety of conservation projects, not just to protect certain well-known species.

What about conservation of the small animals? The vast majority of animals are invertebrates, and their contribution to ecosystem function overwhelms the contribution of the vertebrates. With a few exceptions, such as the octopus, invertebrates are not megafauna, but many are charismatic. Butterflies are one example; coral reefs are another. Despite a long list of engaging animals, the invertebrates languish in attracting public attention. So incensed was the Australian Museum mollusk expert Winston Ponder that he wrote a paper entitled “Bias and Biodiversity” (1992) and coedited a large book on the biology and conservation of invertebrates entitled *The Other 99%* (1999). Invertebrates are now commonly referred to as “the other 99 percent.”

Even within the vertebrates, the large charismatic species are an insignificant minority. The two mammal orders with the most species are the rodents and the bats, but finding charismatic rats or bats is at best a matter of individual taste. The beaver qualifies as a

charismatic rodent, but most beavers look like the despised rats and mice. Flying foxes are large fruit-eating bats, with wingspans up to a meter when in flight. They are utterly captivating to some people, but they are also problematic to propose as charismatic to a broad public. They induce fear in some people because they are bats, and in their vast camps they are seen by some as pests, particularly so when they raid orchards. The worry that they potentially carry lethal diseases has further tarnished their image. Public ignorance and fear of bats reaches back two thousand years (Lunney and Moon 2011).

Implications

From this overview of charismatic megafauna, the conclusion can be drawn that the term is about capitalizing on the preexisting views of the public about their concept of “fauna,” which animals they like, and where people are willing to assist conservation programs aimed at conserving nature. Does a focus on a few high-profile species reinforce an already constrained agenda for those who work to conserve the diversity of species and the ecosystems of which they are vital elements? It does, but it also facilitates conservation gains. Given the multitude of pressures on ecosystems and their faunal inhabitants through the twentieth century, it is fair to say that all conservation gains are welcome. There has been a phenomenal growth

in fauna conservation efforts in the last four decades, and the rate of loss of biodiversity has been slowed in many places. That is a great achievement considering the path that humanity had been on, and a new generation now has the challenge of reversing these losses, fortunately with most of the charismatic megavertebrates still here to enjoy.

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See also Biodiversity; Biodiversity Hotspots; Biogeography; Community Ecology; Complexity Theory; Ecological Restoration; Fencing; Food Webs; Habitat Fragmentation; Hunting; Marine Protected Areas (MPAs); Population Dynamics; Species Reintroduction

FURTHER READING

- The Economist*. (2008, January 7). Branding land: Conservation marketers choose land over beast. Retrieved October 15, 2011, from <http://www.economist.com/node/10486391>
- Entwistle, Abigail, & Dunstone, Nigel. (Eds.). (2000). *Priorities for the conservation of mammalian diversity—Has the panda had its day?* Cambridge, UK: Cambridge University Press.
- Law, Brad; Eby, Peggy; Lunney, Daniel; & Lumsden, Lindy. (Eds.). (2011). *The biology and conservation of Australasian bats*. Mosman, Australia: Royal Zoological Society of NSW.
- Lunney, Daniel; Matthews, Alison; Cogger, Hal; & Dickman, Chris. (2004). The neglected 74%—the non-threatened vertebrates—and a reflection on the limitations of the process that fashioned the current schedules of threatened species in New South Wales. In Pat Hutchings, Daniel Lunney & Chris Dickman (Eds.), *Threatened species legislation: Is it just an act?* (pp. 145–157). Mosman, Australia: Royal Zoological Society of NSW.
- Lunney, Daniel, et al. (2012). Koalas and climate change: A case study on the Liverpool Plains, north-west NSW. In Daniel Lunney & Pat Hutchings (Eds.), *Wildlife and climate change: Towards robust conservation strategies for Australian fauna*. Mosman, Australia: Royal Zoological Society of NSW.
- Lunney, Daniel, & Moon, Chris. (2011). Blind to bats. In Brad Law, Peggy Eby, Daniel Lunney & Lindy Lumsden (Eds.), *The biology and conservation of Australasian bats* (pp. 44–63). Mosman, Australia: Royal Zoological Society of NSW.
- Millennium Ecosystem Assessment. (2005). *Ecosystems and human well-being: Biodiversity synthesis*. Washington, DC: World Resources Institute.
- Morris, Jacqui. (1998). Has the panda had its day? *Oryx*, 32(1), 1.
- Myers, Norman. (1996). The biodiversity crisis and the future of evolution. *The Environmentalist*, 16, 37–47.
- Ponder, Winston. (1992). Bias and biodiversity. *Australian Zoologist*, 28, 47–50.
- Ponder, Winston, & Lunney, Daniel. (Eds.). (1999). *The other 99%: The conservation and biodiversity of invertebrates*. Mosman, Australia: Royal Zoological Society of NSW.
- Saving “charismatic” animals. (1985, April 22). *Newsweek*, 105(16), 10.
- Taylor, Anja (Producer). (2011, 14 April). Koala heatwave. In *Catalyst* [Television series episode]. Sydney: Australian Broadcasting Corporation. Video retrieved October 15, 2011, from <http://www.abc.net.au/catalyst/stories/3191750.htm>



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