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Wild Life is More than Wildlife: Policy for Other Animals in the National Parks

have been asked to speak about the "other animals" in the national parks, or pose the question, "Is wild life more than just wildlife?" During my presentation I will attempt to convince you of the importance of the "other animals," or, as I've also heard them called, "the spineless majority!" I will discuss National Park Service (NPS) policies and approaches for managing the invertebrates, and finally, provide my recommendations for the future.

Let me begin by pointing out that the "other animals" are most important for their contribution to ecosystem goods and services, or in other words, biological diversity and ecological processes, and in that importance they have economic value. This group contains the real resource managers of the national parks!

If we look at sheer numbers, the insects and other arthropods alone make up more than 75% of all described species. If we look at threatened U.S. species (Figure1), according to IUCN (Baillie and Groombridge 1996), we see again a dominance by the "other animals."

IUCN Red List Species



Figure 1. Relative proportions of threatened animal species in the USA

By now you're probably thinking, "So what about numbers—let's talk about importance!" Well, then, to use an old Washington adage, let's follow the money!

Costanza et al. (1997), tried to place an economic value on ecosystem services. They estimated 17 services on a global basis across all biomes, and arrived at an average annual value of \$33 trillion. They also noted that, in comparison, the "global gross national product" is about \$18 trillion per year. If we look at five of the services that involve a lot of activity by the "other animals" (Table 1), we can easily see their potential economic importance. While obviously dominant in pollination and biological control, the invertebrates are, at least, key players in nutrient cycling, food production (either as food or as food for food), and in recreation as part of and managers of the scenery.

So, other animals are important. How is this group treated and viewed by NPS? I would like to answer the question by looking at NPS policies, emphasis, and, yes, money devoted to studying the group.

From a policy standpoint, I think NPS has had a somewhat enlightened approach toward the group, and has been ahead of its time, for a long time in many respects. For example, NPS has long held that natural processes should be allowed to operate without management intervention. The NPS policy in 1980 of using integrated pest management was well ahead of its time (and has probably saved countless billions of "other animals" from the indiscriminate effects of broadcast chemical insecticides). These two polices, applied together, have been very favorable in conserving the enormous diversity of invertebrates in national parks. In this matter, NPS has been steadfast, even if it has meant defending mosquitoes, ticks, and black flies from time to time.

Table 1. Annual global economic value of ecosystem services

- Pollination = US \$117 billion / year
- Biological control = US \$ 417 billion / year
- Nutrient cycling = US \$ 17 trillion / year
- Food production = US \$ 1.4 trillion / year
- Recreation = US \$ 815 billion / year

That leaves us with emphasis and money to consider. Figure 2 shows what was reported by NPS for expenditures, from all sources, on natural resources research and studies during the six-year period from 1991 to 1996. The relatively small amount spent on the invertebrates is obvious. In fact, of the \$10 million spent on invertebrates, \$7 million came from sources other than NPS. There is obviously interest by others in the invertebrate fauna of national parks.

What do I recommend with regard to policy for the "other animals"? I believe that the largest threats to this group will stem from our lack of knowledge about them. NPS policies seem, in theory, robust enough to protect them, but in practice, ignorance and neglect of them could lead eventually to serious problems. I recommend the eight activities listed in Table 2 to put further emphasis on this group. These recommendations were developed largely at an NPS workshop in 1992 and subsequently reported by Ginsberg (1993).

As a final comment, I caution that as we rush to become more "active" managers of the environment, let's not forget about protecting those "other animals," already on the job, 24 hours a day, seven days a week. For if we remove them from the system, we inherit their work.





The National Park Service's Management Policy in the 21st Century

Table 2. Recommended activities to emphasize the study of invertebrates in parks.

- Inventory historical information
- Inventory current collections
- Develop reference materials
- Target inventories
- Research inventory methods
- Foster use of outside talent
- Harmonize databases
- Educate and train

References

- Baillie, Jonathan, and Brian Groombridge (eds.). 1996. 1996 IUCN Red List of Threatened Animals. Cambridge, U.K., Gland, Swizterland, and Washington, D.C.: World Conservation Monitoring Centre, IUCN, and Conservation International. (http://www.wcmc.org.uk/species/animals)
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