POACHING/PRESERVATION: THE CASE OF THE MERU NATIONAL PARK, KENYA[1]

MARIA C. VILLANUEVA
Laboratoire d' Ecologie Fonctionnelle, Ecole Nationale Supérieure Agronomique de Toulouse
BP 32607 Auzeville Tolosane 31326 Castanet Tolosan France ; ching@ensat.fr

MARK JENKINS
Kenyan Wildlife Service Headquaters in Nairobi Kenya; Meru1@bushmail.net

JACQUES MOREAU
Laboratoire d' Ecologie Fonctionnelle, Ecole Nationale Supérieure Agronomique de Toulouse
BP 32607 Auzeville Tolosane 31326 Castanet Tolosan France ; jmoreau@ensat.fr

The Meru National Park (300 km north from Nairobi, the capital city of Kenya) was famous in the early eighties due to its high biodiversity and abundance of mammals and birds. After 1985, due to increasing mismanagement and poor protection, poaching increased drastically leading to the decrease of the abundance of most prestigious species: elephants, giraffes, rhinos, buffaloes, zebras, which were monitored, at least at the beginning of this decline (Atharin, 1980). Some species were eliminated. In 1998, the park management started to improve, reducing poaching activity to an extremely low level. Regular countings showed that species abundance started to increase through reproductive success and recolonisation of the area under protection. In addition, the Kenyan Government received a loan from the "Agence Française de Développement" for the recovery of the Park and simultaneous improvement of the life standards of the human riparian populations (Ganzin *et al.*, 2003).

An Ecopath model was established for the early eighties using what was known on the abundance of the various species inhabiting the Park. Numbers of individuals of each species considered were converted to weights. The model was based on estimates provided by local scientists (past and present abundance of key groups, main trends in terms of feeding and habitats), data from the literature (longevity, quantitative data on food consumption) and recent unpublished data on vegetation for 37 groups. For groups with no known abundance, an EE value of 0.95 was assumed (i.e., mortality through predation or poaching). In a further step, a data base describing the simultaneous variations of the biomass and level of poaching was established and used for Ecosim (Table 1).

Table 1. Variations of abundance (numbers) of some key mammal species of the Meru National Park, as documented from various sources (mostly data from the Kenyan Wildlife Service).

Year	Elephants	Giraffes	Zebras	Buffalos	Waterbucks
1980	2500	1600	600	4100	940
1985	2000	1200	500	3300	700
1995	200	60	200	1580	155
1998	230	110			
2000	250		65	1860	165
2001	400	225	210	2500	
2002	450	250		2800	340
2003	480	275		3050	

The main result is a summary of the history of the park from 1983 to 2003, i.e., from the first translocation of animals into the park initiated, for some species, in June 2003 to June 2006. The simulation exercises showed the strong correlation between the level of poaching and the abundance of key species. Trends of abundance variations for the groups in Table 1, from 1980 to 2003, are illustrated in Figure 1. The relevance of EwE for such terrestrial ecosystems is discussed.
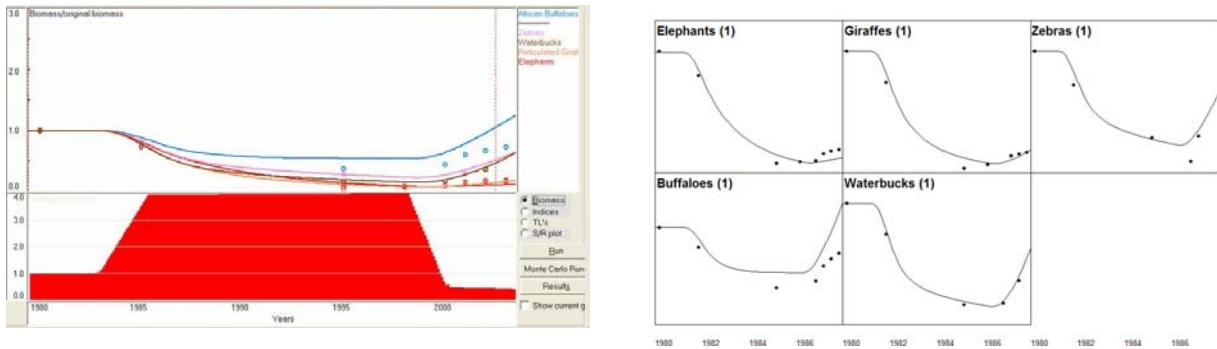
Figure 1. Trends of variations of the abundance of some key species in the Meru National Park, Kenya, as summarized by using Ecosim. Left panel: the run of ecosim as appearing on the screen of the computer; Right panel: the trend of evolution of the abundance of key groups as displayed by ecosim on request from the user).

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