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Are Traditionally Used Resources within Conservation Areas a Function of Their Sizes?

PDF (Size: 192KB) PP. 130-139 DOI : 10.4236/nr.2011.22018

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ABSTRACT

A perception that there is a proportional relationship between the size of a conservation area and the occurrence or abundance of resources available was tested in this paper. This was done by evaluating the occurrence (from records of plant and animal species) of traditionally used biological resources from four national parks of South Africa that have different sizes. Results obtained show that contrary to a general belief that bigger conservation areas might have higher proportions and possibly abundance of traditionally used resources, this is not true. In addition, results reflected that the occurrence of traditionally used biological resources within the conservation areas is not a function (in terms of the size) of their sizes. Drawing this relationship has put forth a question of whether there is a direct relationship between the biodiversity of conservation estates and the resources available. While this study did not attempt to provide an absolute answer to this question, it has laid a foundation to tackle it further. Providing answers to questions like these will not only increase the ecological value of conservation areas among traditional societies but will also help to align con-servation estates with TRIPS (trade related aspects of intellectual property) and other international instruments like CBD (Convention on biodiversity). All which call for inclusive approach to the management of natural resources and biodiversity.

KEYWORDS

Conservation, Traditionally Used Resources, Conservation Areas, National Parks, Biodiversity

Cite this paper

 T. Simelane, "Are Traditionally Used Resources within Conservation Areas a Function of Their Sizes?," *Natural Resources*, Vol. 2 No. 2, 2011, pp. 130-139. doi: 10.4236/nr.2011.22018.

References

- [1] J. M. Watt and M. G. Breyer-Brandwijk, " The Medicinal and Poisonous Plants of Southern and Eastern Africa," Livingstone, London, 1962.
- [2] F. W. Fox and N. Young, " Food from the Veld," Delta, Johannesburg, 1982.
- [3] B. Van Wyk, B. Oudsthoorn and N. Gericke, " Medicinal Plants of South Africa," Briza publications, Pretoria, 1997.
- [4] A. B. Cunningham, " Imithi Isizulu: The Traditional Medicine Trade in Kwazulu-Natal," Master of Social Science dissertation, University of Na-tal, Pietermaritzburg, 1992.
- [5] R. Scott-Shaw, " A Di-rectory of Medicinal Plants Trade in Natal with Zulu Names and Conservation Status," Natal Parks Board internal Report, Natal Parks Board, 1990.
- [6] M. Man-der, " Marketing of indigenous medicinal plants in South Africa: A case study in Kwazulu-Natal," Rome-Food and Agriculture Organization of the United Nations, 1998.
- [7] L. V. Williams, " The Witwatersrand Muti Trade," Veld & Flora, March 1996, pp. 12-14.
- [8] A. B. Cun-ningham, " An Investigation of the Herbal Medicine Trade in KwaZulu," Investigational Report No.29, Insti-tute of Natural Resources, University of Natal, Pieter-maritzburg, 1988.

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- [9] A. B. Cunningham, " Income, Sap Yield and Effects of Sap Tapping on Palms in the South-Eastern Africa," *South African Journal of Botany*, Vol. 56, No. 2, 1990, pp. 137-144.
- [10] A. B. Cunningham and A. S. Zondi, " Striped Weasel: Traditional Medicine and Conservation," *Endangered Wildlife*, Vol. 11, 1992, pp. 10-15.
- [11] S. A. McCartan and J. van Staden, " Micropropagation of Members of the Hyacinthaceae with Medicinal and Ornamental Potential," *South African Journal of Botany*, Vol. 65, No.5-6, 1999, pp. 361-369.
- [12] T. S. Simelane, " Role of Conservation Areas in Conserving Traditionally Used Natural Resources and Biodiversity," Ph.D. thesis. Nelson Mandela Metropolitan University, Port Elizabeth, 2005.
- [13] J. Botha, " Perceptions of Availability and Values of Medicinal Plants Traded in Areas Adjacent to the Kruger National Park," MSc thesis dissertation, University of the Witwatersrand, Johannesburg, 2001.
- [14] A. B. Cunningham, " Indigenous Plant Use: Balancing Human Needs and Resources," B. J. Huntley (ed.) " Biotic Diversity in Southern Africa: Concepts and Conservation," Oxford University Press, Cape Town, 1989.
- [15] T. S. Simelane, " The Traditional Use of Indigenous Vertebrates," MSc Dissertation, University of Port Elizabeth, Port Elizabeth, 1996.
- [16] A. B. Cunningham and A. S. Zondi, " Use of Animal Plants for Commercial Trade in Traditional Medicine," Institute of Natural Resources, Report 76, 1991, pp. 1-40.
- [17] T. S. Simelane and G. I. H. Kerley, " The Conservation Implications of the Use of Indigenous Vertebrates by Traditional Healers: With Reference to Xhosa Traditional Healers," *South African Journal of Wildlife Research*, Vol. 28, 1998, pp. 121-126.
- [18] R. H. N. Smithers, " South African Red Data Book-Terrestrial Mammals," South African National Scientific Programme Report No.125, FRD & CSIR, Pretoria, 1986.
- [19] W. R. Branch, " South African Red Data Book: Reptiles and amphibians," South African Scientific programme, Report 151, 1988, pp. 1-24.
- [20] J. Hilton-Taylor, E. T. F. Witkowski and C. M. Shackleton, " An inventory of medical plants traded on the western boundary of the Kruger National Park, South Africa," *Koedoe*, Vol. 44, No. 2, 2001, pp. 7-46.
- [21] A. B. Cunningham and A. S. Zondi, " Striped Weasel: Traditional Medicine and Conservation," *Endangered Wildlife*, Vol. 11, 1992, pp. 10-15.
- [22] T. S. Simelane and G. I. H. Kerley, " Recognition of Reptiles by Xhosa and Zulu Communities in South Africa, With Notes on Traditional Beliefs and Uses," *African Journal of Herpetology*, Vol. 41, 1997, pp. 49-53. doi:10.1080/21564574.1997.9649975
- [23] J. G. Castley and G. I. H. Kerley, " The Paradox of Forest Conservation in South Africa," *Forest Ecology and Management*, Vol. 85, 1996, pp. 35-46. doi:10.1016/S0378-1127(96)03748-6
- [24] C. Fabricius and M. Burger, " Comparison between a nature reserve and adjacent communal land in Xeric Succulent Thicket – an Indigenous Plant User's Perspective," *South African Journal of Science*, Vol. 93, 1997, pp. 259-262.
- [25] C. A. Peres, " Effects of Hunting on Western Amazonian Primate Communities," *Biological Conservation*, Vol. 5, 1990, pp. 47-59. doi:10.1016/0006-3207(90)90041-M
- [26] E. Bowen-Jones and S. Pendry, " The Trade of Primates and Other Mammals from the Bushmeat Trade in Africa, and How this Threat could be Diminished," *Oryx*, Vol. 33, No. 3, 1999, pp. 233-246.
- [27] A. Rosser, N. Ash and M. Sorola, " Approaches to the conservation of species used in traditional medicines," *South African Journal of Medicine*, Vol. 48, 2000, pp. 1688-1690.
- [28] F. Berkes, J. Colding and C. Folke, " Rediscovery of Traditional Ecological Knowledge as Adaptive Management," *Ecological Applications*, Vol. 10, No. 5, 2000, pp. 1251-1262. doi:10.1890/1051-0761(2000)010[1251:ROTEKA]2.0.CO;2
- [29] M. Richards, " Protected Areas, People and Incentives in Search for Sustainable Forest Conservation in Honduras," *Economic Conservation* Vol. 23, No. 3, 1996, pp. 207-217.

- [30] W. R. Siegfried, " Preservation of Species in Southern African Nature Reserves," B. J. Huntley, " Biotic Diversity in Southern Africa-concepts and Conservation," Oxford University Press, New York. 1989.
- [31] B. E. Van Wyk, C. M. Van Wyk and P. Novellie, " Flora of the Zuurberg National Park. An annotated Checklist of Ferns and Seed Plants," Bothalia, Vol. 18, 1988, pp. 221-232.
- [32] D. Tilman, " Biodiversity: Population versus ecosystem stability," Ecology, Vol. 77, No. 2, 1996, pp. 350-363. doi:10.2307/2265614
- [33] U. Pond, B. B. Beesley, L. R. Brown and H. Bezuidenhout, " Floristic Analysis of the Zebra National Park, Eastern Cape," Koedoe, Vol. 45, No. 1, 2002, pp. 335-357.
- [34] J. Botha, E. T. F. Witkowski and C. M. Shackleton, " An inventory of medical plants traded on the western boundary of the Kruger National Park, South Africa," Koedoe, Vol. 44, No. 2, 2001, pp. 7-46.
- [35] R. Liversidge, " The Birds of the Addo Elephant National Park," Koedoe, Vol. 8, 1965, pp. 41-67.
- [36] B. R. Roberts, " The Vegetation of the Golden Gate Highlands National Park," Koedoe, Vol. 12, 1969, pp. 15-28.
- [37] M. F. Bates, " A Provisional Checklist of Reptiles and Amphibians of the Golden Gate Highlands National Park," Koedoe, Vol. 34, No. 2, 1991, pp. 153-155.
- [38] K. A. Earle and A. B. Lawson, " An Annotated Checklist of the Birds of The Golden Gate Highlands National Park," Koedoe, Vol. 31, 1988, pp. 227-244.
- [39] H. Bezuidenhout, " An Ecological Study of the Major Vegetation of the Vaalbos National Park, Northern Cape – The Than Droogeveld section," Koedoe, Vol. 37, No. 2, 1994. pp. 19-41.
- [40] H. Bezuidenhout, " An Ecological Study of the Major Vegetation of the Vaalbos National Park Northern Cape – The Than Graspan-Holpan section," Koedoe, Vol. 33, No. 2, 1995, pp. 65-83.
- [41] C. F. Johnson, R. M. Cowling and P. B. Phillipson, " The Flora of the Addo National Park, South Africa: Are Threatened Species Vulnerable to Elephant Management," Biodiversity and Conservation, Vol. 8, 1999, pp. 1447-1456. doi:10.1023/A:1008980120379
- [42] V. L. Williams, K. Balkwill and E. T. F. Witkowski, " A Lexicon of Plants Traded on the Witwatersrand Umuthi Shops, South Africa," Bothalia, Vol. 31, 2001, pp. 71-98.
- [43] P. C. Zietsman, P. J. du Preez and H. Bezuidenhout, " A Preliminary Checklist of Flowering Plants of the Vaalbos National Park," Koedoe, Vol. 42, No. 2, 1992, pp. 95-112.
- [44] M. H. Knight and A. J. Hall-Martin, " Helicopter Surveys of the Addo Elephant Park," Internal Report, South African National Parks, Kimberley, March-May 1994.
- [45] J. G. Castley and M. H. Knight, " Helicopter Based Survey of Addo Elephant National Park," Unpublished Internal Report, South African National Parks, Kimberley, February 1998.
- [46] F. W. Fox and N. Young, " Food from the Veld," Delta, Johannesburg, 1982.
- [47] E. Palmer and N. Pitman, " Trees of Southern Africa," Vol. 1, Balkema, Cape Town, 1972.
- [48] A. Hutchings, A. H. Scott, G. Lewis and A. Cunningham, " Zulu Medicine Plants – An Inventory," University of Natal Press, Pietermaritzburg, 1996.
- [49] F. Venter and J. Venter, " Making the Most of Indigenous Trees," Briza publication, Pretoria, 1996.
- [50] B. Van Wyk and N. Gericke, " People's Plants— A Guide to Useful Plants of Southern Africa," Briza publications, Pretoria, 1999.
- [51] A. B. Cunningham and A. S. Zondi, " Use of Animal Plants for Commercial Trade in Traditional Medicine," Institute of Natural Resources, Rep. 76, pp. 1991, 1-40.
- [52] A. B. Cunningham and A. S. Zondi, " Striped Weasel: Traditional Medicine and Conservation," Endangered Wildlife, Vol.11, 1992, pp. 10-15.
- [53] J. Bryom, " Field guide to the Game of the Natal and Zululand," Sealair, Durban, 1977.
- [54] H. Ngubane, " Body and Mind in Zulu medicine: An Ethnology of Health and Diseases in Nyuswa-

- [55] T. S. Simelane, " The Traditional Use of Indigenous Vertebrates," MSc dissertation, University of Port Elizabeth, Port Elizabeth, 1996.
- [56] W. R. Branch, " South African Red Data Book: Reptiles and amphibians," South African Scientific programme, Report 151, 1988, pp. 1-24.
- [57] C. Hilton-Taylor; O. A. Leistner and B. A. Momberg, " Red Data List of Southern African Plants (Strelitzia)," National Botanical Institute, 1996.
- [58] K. N. Barnes, " The Eskom Red Data Book of Birds in South Africa, Lesotho and Swaziland," Birdlife South Africa, Johannesburg, 2000.
- [59] J. H. Zar, " Biostatistical Analysis," 2nd edition, Prentice Hall, New Jersey, 1984.
- [60] J. O. Kokwaro, " Medical Plants of East Africa," East African Literature Bureau, Nairobi, 1983.
- [61] A. T. Bryant, " Zulu Medicine and Medicine-Men," C. Struik, Cape Town, 1966.
- [62] B. Akendengue, " Medical Plants Used by Fang Traditional Healers in Equatorial Guinea," Journal of Ethnopharmacology, Vol. 37, 1992, pp. 165-173. doi:10.1016/0378-8741(92)90075-3
- [63] O. L. B. Phillips and A. H. Gentry, " The Useful Plants of Tambora, Peru I: Statistical Hypothesis Tests with a New Quantitative Technique," Economic Botany, Vol. 47, 1993, pp. 15-32. doi:10.1007/BF02862203
- [64] H. N. Balyamujura and H. G. van Schalkwyk, " Nature Conservation Versus Human Needs: The Case of Manyeleti Game Reserve," Agrekon, Vol. 38, 1999, pp. 861-873. doi:10.1080/03031853.1999.9524895
- [65] C. M. Shackleton, " Demography and Dynamics of Dominant Woody Species in a Communal and Protected Area of the Transvaal Lowveld," South African Journal of Botany, Vol. 59, 1993, pp. 569-574.
- [66] D. W. Schemske, B. C. Husband, M. H. Ruckelshaus, C. Goodwill, I. N. Parker and J. G. Bishop, " Evaluating Approaches to the Conservation of Rare and Endangered Plants," Ecology, Vol. 75, 1994, pp. 584-606. doi:10.2307/1941718
- [67] V. H. Heywood, " Global Biodiversity Assessment," Cambridge University Press, New York, 1995.
- [68] C. M. Shackleton, " Comparison of the Plant Diversity in Protected and Communal Lands in the Bushbuckridge Lowveld Savanna, South Africa," Biological Conservation, Vol. 94, 2000, pp. 273-280. doi:10.1016/S0006-3207(00)00001-X
- [69] T. M. Caro, " Species Richness and Abundance of Small Mammal inside and Outside African National Park," Biological Conservation, Vol. 98, 2001, pp. 251-257. doi:10.1016/S0006-3207(00)00105-1
- [70] H. Else and J. du P. Bothma, " Developing Partnerships in a Paradigm to Achieve Conservation