

This Week's Citation Classic

CC/NUMBER 38
SEPTEMBER 20, 1982

Ovington J D. Quantitative ecology and the woodland ecosystem concept.
Adv. Ecol. Res. 1:103-92, 1962.
[Nature Conservancy, Monk's Wood Research Station, St. Ives,
Huntingdonshire, England]

After discussing the ecosystem concept and its application to forest research, the paper summarises the available information for forests throughout the world on organic matter dynamics, energy dynamics, water circulation, and the circulation of chemical elements. [The SCJ[®] indicates that this paper has been cited in over 110 publications since 1962.]

J.D. Ovington
Australian National Parks and
Wildlife Service
P.O. Box 636
Canberra City, ACT 2601
Australia

July 1, 1982

"Following the end of World War II, I graduated in botany, my honours subject being plant ecology. Since I believed the course treated soil science inadequately, I was pleased to accept a scholarship at the Macaulay Institute of Soil Science.

"The scholarship required me to investigate the effects of conifer plantation forestry on soil. The impetus for such a study had arisen because exotic tree species were being planted in the United Kingdom on an extensive scale, often on infertile soils, and there were disquieting reports of declining productivity of conifer plantations in Germany, allegedly as a result of soil exhaustion. When the scholarship terminated, I had completed two main investigations and acquired some knowledge of soil science and soil and plant analytical techniques. More importantly I realised the inadequacy of forest research compared with that of agriculture and the need for more fundamental studies.

"Subsequently, I joined the British Nature Conservancy where I was responsible for woodland research. There I was able to adopt a synecological approach which recognised the dynamic nature of forest ecosystems, despite

reservations from some dedicated people who felt nature conservation research should be limited to the protection of a few highly visible species.

"The resources available to me were minimal. I had other administrative duties, but was given a junior laboratory assistant and my wife gave of her time voluntarily. My laboratory was a converted kitchen (reportedly the kitchen provided for Field Marshal Montgomery during the war) on the top floor of an office building within the sound of the chimes of Big Ben. The problems of transporting trees, animals, and soil to the laboratory for sampling and analysis and the disposal of unused material in the centre of a city were formidable. I envy the young scientists of today who as part of large multidisciplinary teams have available well-equipped laboratories, sophisticated analytical equipment for the routine chemical analysis of many samples, and computers for handling vast amounts of data. Big science has some advantages.

"The paper summarises the results of the ecosystem studies undertaken in a range of British woodlands and the relevant investigations of other scientists. Emphasis is placed on the dynamic nature of forest ecosystems, the unity of ecosystems, and the relationships within and between neighbouring ecosystems. Attention was directed to the need to study forest ecosystems at sequential development stages.

"I believe the paper encouraged interest in the methodology of forest sampling for biological purposes and in the application of modelling to forest ecosystems. It proved timely in that many of the concepts expounded in it were basic to the development of the International Biological Programme and germane to public concern about environmental degradation and the need to maintain biological productivity in balance with population increase. More recent work in the field can be found in *Ecologie des Ressources Naturelles*.¹

1. Ramade F. *Ecologie des ressources naturelles*. Paris: Masson, 1981. 322 p.