

ISSN 0376-8929

Published Quarterly

Volume 7, No. 4 – Winter 1980

# Environmental Conservation

The international Journal  
devoted to maintaining global  
viability through exposing and  
countering environmental  
deterioration resulting from  
human population pressure  
and unwise technology

Founded and Edited by **NICHOLAS POLUNIN**

Conferences & Meetings Dr M.A. Farid  
Editorial Assistant Dr N.V.C. Polunin



Published for the  
FOUNDATION  
FOR ENVIRONMENTAL  
CONSERVATION  
by  
ELSEVIER SEQUOIA S.A.  
Lausanne, Switzerland



with the collaboration of the  
United Nations Environment Programme (UNEP)  
International Union for Conservation of Nature and Natural  
Resources (IUCN)  
International Association for Ecology (INTECOL)  
International Conferences on Environmental Future (ICEFs)  
World Environment and Resources Council (WERC)  
and World Wildlife Fund (WWF)

## ENVIRONMENTAL CONSERVATION

advocates timely action for the protection and amelioration of the environment of Man and Nature throughout the world: Topics range from pertinent case-histories of the past and present to rational use of resources, foreseeing ecological consequences, enlightened environmental policy, anti-pollution measures, low-impact development, environmental education and law, and ecologically sound management of all land and fresh water, sea and air, for the lasting future of Earth's fragile biosphere.

The following are the main types of contributions which may be accepted for publication in this Journal: Survey articles on important aspects of its subject; Research papers whether basic or 'confirmatory'; Case-history accounts of wide significance and interest; *Short Communications*: reports, comments, news, notes; *Ecosystems for Conservation*: examples from around the world;

*Conferences & Meetings*: summary reports; important prospects;

*Reviews & Notices*: of new books etc.

**Founded and Edited by Nicholas Polunin**  
**Conferences & Meetings:** Dr M. A. Farid  
**Reviews & Notices:** vacant  
**Editorial Assistant:** Dr N. V. C. Polunin

### ADVISORY EDITORS

**African Developments:** Prof. Mohamed Kassas (Cairo, Egypt)

**Animal Ecology:** Prof. Raymond F. Dasmann (Santa Cruz, California)

**Animal Impact:** Prof. Jean Dorst (Paris, France)

**Australasia:** Dr Donald F. McMichael (Canberra City, Australia)

**Biological Productivity:** Dr E. Barton Worthington (Nr Uckfield, England)

**Biosphere Maintenance:** Prof. Hon. Beatrice E. Willard (Boulder, Colorado)

**Central America:** Dr Anne LaBastille (Big Moose, N.Y.)

**Climatic Change:** Provost F. Kenneth Hare (Toronto, Ontario)

**Conservation Policy:** Prof. Duncan Poore (Oxford, England)

**Economic Aspects:** Prof. Marshall I. Goldman (Cambridge, Mass.)

**Ecosystems Research:** Prof. Heinz H. Ellenberg (Göttingen, West Germany)

**Education and Training:** Dr Jan Čerovský (Praha, Czechoslovakia)

**Endangered Biota and Ecosystems:** Dr Norman Myers (Nairobi, Kenya)

**Environmental Engineering:** Prof. Philip H. Jones (Toronto, Ontario)

**Fresh Waters:** Prof. W. Thomas Edmondson (Seattle, Washington)

**Geographical Aspects:** Prof. Gilbert F. White (Boulder, Colorado)

**Human Settlements:** Dr Pierre Laconte (Louvain-la-Neuve, Belgium)

**I.C.E.Fs:** Nicholas Polunin (Geneva, Switzerland)

**Indian Sub-Continent:** Dr Jai Kishan Maheshwari (Lucknow, India)

**Indo-Malayan Wildlife:** Dr G. M. Oza (Baroda, India)

**INTECOL:** Prof. Amyan Macfadyen (Coleraine, N. Ireland)

**Island Ecosystems:** Dr F. Raymond Fosberg (Washington, D.C.)

**I.U.C.N.:** Dr Lee M. Talbot (Gland, Switzerland)

**Land Use and Recovery:** Prof. Kai Curry-Lindahl (Stockholm, Sweden)

**Law and Enforcement:** Prof. Homer G. Angelo (Davis, California)

**Marine Geology:** Prof. Eric S. W. Simpson (Rondebosch, South Africa)

**Marine Waters:** Dr G. Carleton Ray (Charlottesville, Virginia)

**Medical Aspects:** Dr Bent Juel-Jensen (Oxford, England)

**Meteorology and Climatology:** Prof. Reid A. Bryson (Madison, Wisconsin)

**Microbiological Implications:** Prof. René Dubos (New York, N.Y.)

**Parks and Reserves:** Prof. Jean-Paul Harroy (Bruxelles, Belgium)

**Pesticides and Toxicants:** Dr Norman W. Moore (London, England)

**Plant Ecology:** Prof. Makoto Numata (Chiba, Japan)

**Physics and Energy:** vacant

**Pollutants and Disposal:** Prof. Kenneth Mellanby (Abbots Ripton, England)

**Population Impact:** Prof. Paul R. Ehrlich (Stanford, California)

**Resources Conservation:** Prof. S. Fred Singer (Charlottesville, Virginia)

**Social Studies:** Prof. Lynton K. Caldwell (Bloomington, Indiana)

**Soils and Erosion:** Prof. Viktor A. Kovda (Moscow, U.S.S.R.)

**South America:** Dr José C. de Melo Carvalho (Rio de Janeiro, Brazil)

**South-East Asia:** Prof. Otto Soemarwoto (Bandung, Indonesia)

**South-West Asia:** Christopher D. W. Savage (Petworth, England)

**Tourism and Recreation:** Dr Michael B. Usher (York, England)

**U.N.E.P.:** Dr Ruben Olembo (Nairobi, Kenya)

**W.E.R.C.:** David Hughes-Evans (London, England)

**W.W.F.:** Dr Luc Hoffmann (Gland, Switzerland)

### SUBMISSION OF MANUSCRIPTS

All contributions must be in precise English and original, submission of a 'manuscript' implying that it is unpublished and is not being considered contemporaneously for publication elsewhere. Manuscript (two copies, *including one on light airmail paper*) and allied materials should be sent to:

Prof. Dr Nicholas Polunin, Editor  
ENVIRONMENTAL CONSERVATION  
15 Chemin F.-Lehmann  
1218 Grand-Saconnex  
Geneva, Switzerland

or to one of the Advisory Editors (listed above). There is a set of Instructions for Authors at the end of each issue; failure to follow these in reasonable degree may lead to, at best, protracted correspondence or return of a manuscript for restyling before it can be considered or even refereed.

### PUBLISHING AND SUBSCRIPTION INFORMATION

*Environmental Conservation* is published by Elsevier Sequoia S.A., Lausanne, for the Foundation for Environmental Conservation, with the collaboration of the United Nations Environment Programme (UNEP), the International Union for Conservation of Nature and Natural Resources (IUCN), International Association for Ecology (INTECOL), International Conferences on Environmental Future (ICEFs), World Environment and Resources Council (WERC), World Wildlife Fund (WWF), and others. It is covered in about twelve international contents and abstracting journals emanating from Great Britain, the United States, Italy, and West Germany.

*Environmental Conservation* is published quarterly, corresponding to the four seasons in the Northern Hemisphere. Size 28 X 20 cm, comprising at least 320 pages of text per annum. The volume subscription price for 1980 will be SFr. 130 including postage. The ISSN is 0376-8929.

Subscription orders and enquiries should be sent to:

ENVIRONMENTAL CONSERVATION  
Elsevier Sequoia S.A.  
P.O. Box 851  
1001 Lausanne 1, Switzerland.