ANNEX XV

Summary Report on the Activities of the:

SCOR WG 60 ON MANGROVE ECOLOGY
to 31 October 1978

Dr Samuel C. Snedaker, Chairman

SCOR WG 60 Membership:

Dr S.C. Snedaker	USA
Dr F. Blasco	France
Dr H. Chansang	Thailand
Professor V.J. Chapman	New Zealand
Dr A. Lot–Helgueras	Mexico
Dr F. Pannier	Venezuela
Dr B.G. Thom	Australia
Professor T.R. Parsons (reporter)	

The SCOR Working Group 60 on Mangrove Ecology was formed during in late 1977 as a result of recommendations from UNESCO and the International Association of Biology Oceanography. The Executive Committee of SCOR provided the Working Group with the following terms of reference:

1. To provide a general scientific framework for mangrove ecosystem studies, including the need for research on structure, geographic range and ecosystem dynamics.

2. To identify the subject content of a methodological handbook such as would be required to carry out the programme identified in (1) above.

Following the establishment of the WG and the designation of its chairman, Dr Samuel C. Snedaker of the University of Miami, USA, the appropriate membership was solicited and plans made to hold the first meeting. All invitees accepted membership and the first meeting was held in May of 1978 in San José, Costa Rica. At the first meeting of the WG, the chairman charged the group with the terms of reference and outlined supporting goals to be achieved. The results of that meeting are summarized below.

Results of the San José Meeting

In order to deal with the terms of reference, the WG felt that it was first necessary to agree upon a working definition for the scientifically ambiguous term, 'mangroves' and to outline the major conservation and research problems. The following definition of mangroves was approved:

> "Mangroves are a collection of woody plants, plus associated fauna and flora, that utilize a coastal, saline, depositional environment involving a variety of coastal land forms with typically anaerobic soils."

Two ancillary and explanatory sentences were also accepted:

"Mangroves are characteristically open systems in respect to nutrient flow, such nutrients being primarily derived from an upstream catchment or from tidal flooding, with organic material being exported."

"The net production from the mangroves is utilized by a variety of marine organisms in a complex, detrital-based food web."

This definition for an ecosystem which is neither wholly marine nor terrestrial is belivered to be of value to all persons with responsibilities relating to the tropical and subtropical coastal zone.

The WG was unanimous in assigning causes of the worldwide and progressive disappearance of mangroves to: ill-advised freshwater management schemes, coastal mining activities, conversion to agricultural land use, timber exploitation, and regional development practices, in general.

From these bases it was then possible to address the terms of reference. It was agreed at this point that the "general scientific framework for mangrove ecosystem studies" stated in the first term of reference would also constitute the "subject content of a methodological handbook". Both terms of reference were kept in mind during the preparation of the material summarized by major topic headings:

Structure (with reference to both flora and fauna)
- Species composition of communities
- Morphological adaptations
- Population structure
- Physiognomy

Geographic Range
- Areal distribution of recognized communities mapped at a scale not to exceed 1:50,000.
- Species distributions in relation to temperature isotherms and precipitation

Ecosystem Dynamics
- Direct physical factors
- Hydrodynamics and geomorphology
- Biological interactions
- Community metabolism
- Detritus production, decomposition, export and utilization
- Evolution of the community

In a similar manner, the subject content of the methodological handbook was identified based on the above. The major topic headings to be included are:

- Biological survey of species and communities
- Environmental conditions: topography, hydrology, meteorology and pedology
- Productivity
- Nutrient cycling
- Process studies
- Community or ecosystem evolution
- Consumer systems
- Modelling: physical, chemical and biological

All of the topics were thoroughly discussed and each of the WG members was assigned one or more tasks to develop the information subsumed under the designated heading. Minutes were maintained throughout the meeting to serve as a basis for these individual work efforts.

During the course of the several day meeting it became apparent that in order to fully address the scientific problems associated with mangroves on a worldwide basis, it would be necessary to accept two additional terms of reference. These were

> "To develop a survey sheet (questionnaire) for the identification of current research workers and research problems which could serve for interpretation and for publishing a general worldwide directory on the subject of mangrove research."

> "To consider the ways in which scientific research can be applied to problems of management and conservation of mangrove ecosystem."

The chairman accepted the responsibility for assembling, distributing and processing the survey questionnaire. The fourth term of reference would become a major topic for discussion at any subsequent meeting of the Working Group. It was further decided that to continue the functions of the working group it would be necessary to include among the membership a zoologist. The name of Dr A. Sasekumar, Department of Zoology, University of Malaysia, was accepted as a logical candidate. Lastly, the group agreed that should any future meeting of the Working Group take place, it should be held in Africa (Senegal, Nigeria or Kenya) due to the fact that Africa is poorly represented in mangrove research activities.

Following the meeting in San José, the meeting minutes were typed and distributed to assist each member in discharging his task responsibilities. As of this date, all of the members have submitted their working drafts of promised materials and efforts are being made by the chairman to collate and edit the draft report. In addition, the chairman has solicited the cooperation of the Institute of Ecology (Dr Frank Golley) in the handling of the survey questionnaire, due to his recent experience with a survey of tropical ecologists. The survey questionnaire will be available for distribution in November at UNESCO's regional seminars in Cali, Colombia, and Dacca, Bangladesh, as well as meetings with similar objectives. A mass mailing of questionnaires will be made early in 1979.