VENUE	GENERAL SESSION 11	CHAIRPERSONS
ARTS BUILDING ALEXANDER LECTURE THEATRE	ARID ZONE WETLANDS	B.V. TIMMS J.C. LEFEUVRE

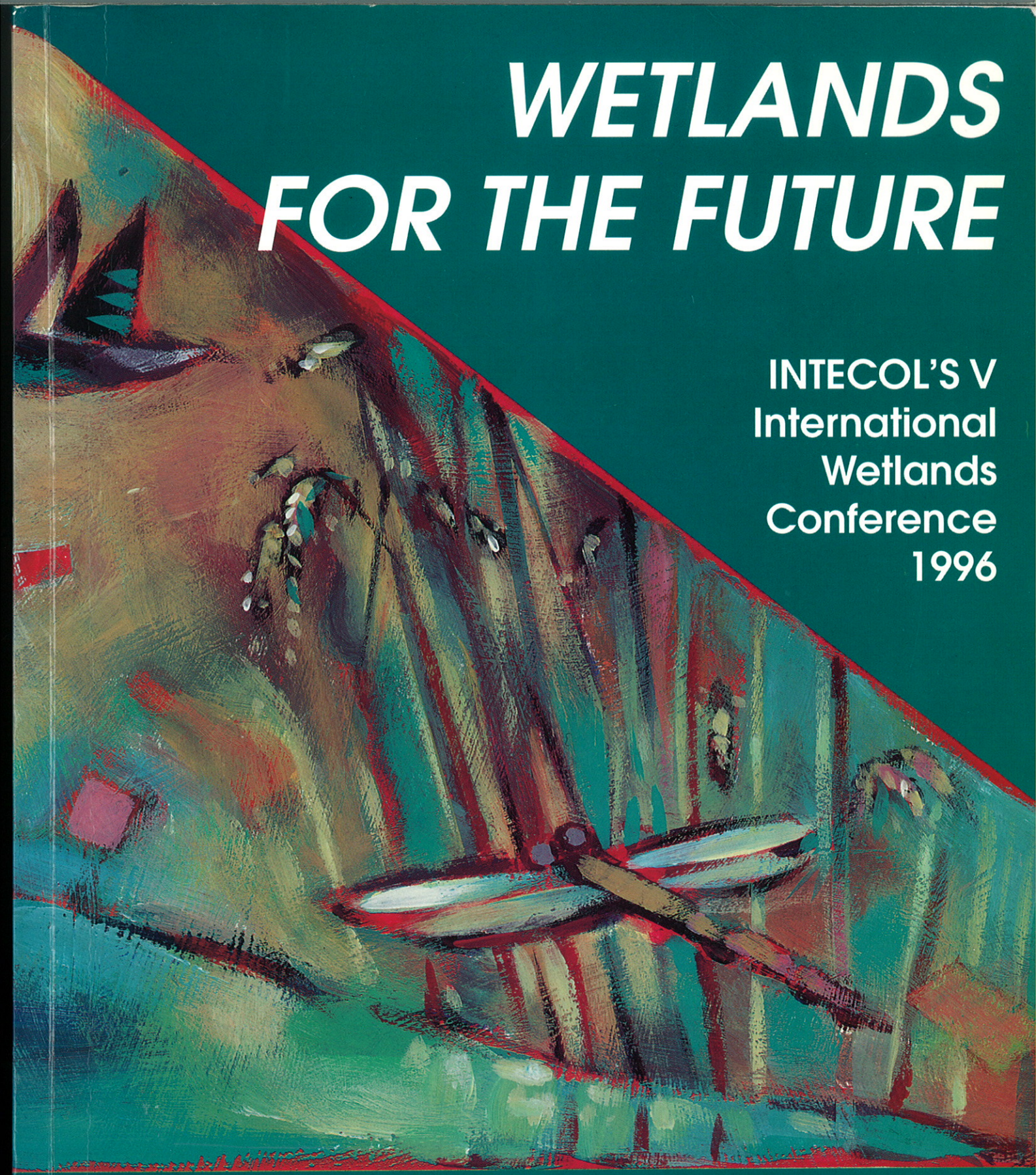
HALSE, S.A. Department of Conservation and Land Management, P.O. Box 51, Wanneroo W.A. 6065, AUSTRALIA.

Lake Gregory semi-permanent arid zone lake in north-western Australia

Lake Gregory is located on the northern edge of the Great Sandy Desert in Western Australia, an area with annual median rainfall of less than 300 mm and evaporation of 4000 mm. Sturt Creek, which discharges into the lake, has a catchment extending into more humid areas and, despite its desert setting, Lake Gregory has dried only twice during the last 25 years. Several other features make Lake Gregory significant on an international scale. It covers about 380 km^2 when flooded to its usual boundary and up to 1300 km^2 after massive flood events. Although fresh for most of the flooding cycle, it becomes highly saline (like most Australian arid zone lakes) as it dries. In biological terms, the lake is probably the richest arid zone wetland in Australia, with 176 species of aquatic invertebrate and 73 species of waterbird recorded. The diversity of aquatic invertebrates appears to be due to the long periods of inundation with fresh water and the varying ionic compositions (from sodium chloride to bicarbonate dominance) in different parts of the system. Few species of invertebrate occur when the lake is saline. The large numbers of waterbirds probably result from high lake productivity, a large fish population and the fact that water is present when other wetlands in the region are dry. Up to 600000 waterbirds have been recorded, with 23 species breeding. Significant numbers of palacartic shorebirds use the lake as a staging point as they cross Australia on annual migrations Like most wetlands in arid areas where water is valuable, human enterprises have affected Lake Gregory. Cattle grazing has reduced the number of trees on the lake shore, which adversely affects waterbird breeding. Other changes in the catchment, principally increasing erosion, will also cause deleterious changes in the ecology of the lake. Conserving the biological wealth of arid zone wetlands, such as Lake Gregory, is an important challenge.

ZOHARY, T. & HAMBRIGHT, K.D. Israel Oceanographic & Limnological Research, Kinneret Limnological Laboratory, Tiberias 14102, ISRAEL.

Hula: Limnology of a restored wetland ecosystem in Israel



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