Waterbird Survey Commissioned

The Department of Fisheries and Wildlife has recently contracted with the Royal Australasian Ornithologists Union (R.A.O.U.) to undertake a four year study of waterbird usage of selected Wetland Nature Reserves in the South West and Eucla Land Divisions of the State.

The objectives of the project are:

a) To assess the role and importance of the Wetland Nature Reserve System in the conservation of waterbird populations in the south-west of the State.

b) To obtain information on waterbird usage to help in the management of Wetland Nature Reserves and in the resolution of conflicts between different uses.

c) To provide appropriate experience for future monitoring of waterbird abundance.

Total funding amounts to $93,000 over five financial years. This will be used by the R.A.O.U. to cover the salary of a full-time project co-ordinator, as well as travel expenses, office rental, computing costs, stationery, printing, telephone, postage, and other administrative costs. Funding is from Departmental Research Funds ($50,200) and from the Wildlife Conservation Trust Fund ($42,800). It is worth noting that most of the Trust Fund money is derived from duck-shooters' licence fees — presently $5.00 per licence per season. In other States of Australia income derived from licence fees goes into general revenue. In Western Australia the money is ploughed back into wildlife conservation projects such as this waterbird study. It would be fair to say that this project would not have got off the ground without the aid of the Conservation Trust Fund.

The project began in April this year with the appointment of Mr Roger Jaensch as Project Co-ordinator. Roger comes from South Australia with a Bachelor or Arts degree majoring in Geography, and considerable experience in the indentification and survey of birds, particularly the more secretive species of waterbirds such as crakes and rails. At the time of leaving Adelaide for Perth he was Bird Records Secretary for the South Australian Ornithological Association and was undertaking a survey of the waterbirds of south-eastern South Australia for the S.A. Government.

Roger's early tasks have been to establish an office, to familiarise himself with a representative sample of the wetlands to be surveyed, to carry out trial surveys, and to prepare computer-compatible survey forms and booklets for later use by R.A.O.U. observers. This preparatory work will continue until December 31, 1981 when fieldwork for the R.A.O.U.'s current project, the Atlas of Australian Birds, is scheduled to finish. R.A.O.U. members will then be able to turn their attentions to this new, waterbird survey project.

There are 263 Wetland Nature Reserves (i.e. Nature Reserves which include or adjoin lakes, swamps, rivers of estuaries) in the South West and Eucla Land Divisions of the State. Of these, 186 are vested in the

▲ Kulunilup Swamp, Shire of Cranbrook. — Photo J. Lane.

▲ Sharp-tailed Sandpiper — Photo A.G. Wells.

▼ Coblinine River flats, Shire of Katanning. — Photo J. Lane.

Western Australian Wildlife Authority. The W.A. Department of Fisheries and Wildlife has responsibility for their management. Over recent year a fair amount of data on waterbird usage of these areas has been gathered opportunistically, however a comprehensive assessment of usage, and seasonal changes in usage, has never been made. Such a survey has simply been beyond the limited resources of the Department. For Government (or private enterprise) to undertake a project of this magnitude using salaried officers, the financial cost would be very large indeed — despite the enjoyable nature of the "work"! The R.A.O.U. however, with its large and enthusiastic network of amateur ornithologists (there are more than 300 active "Atlassers" in the south-west of the State), is able to undertake the project at low comparative cost.

The information gained from the project will be invaluable. So often the Department is faced with a potential conflict of uses to resolve, and has little or no data on waterbird usage of the wetland concerned on which to base a decision. From river-diversion and peat-mining proposals in the Lake Muir area, to diatomaceous-earth mining and ground-water extraction on the northern Swan Coastal Plain the Department has to make judgements about the likely affects of such proposals. The information obtained from the R.A.O.U. project will go a long way towards filling the data gap.

How will the project operate? As explained above, the latter half of 1981 will be devoted to setting it up. During 1982 R.A.O.U. members (and others who join in on the project — it is not essential to be an R.A.O.U. member to participate) will survey waterbird usage of 100 or so of the best and most accessible Wetland Nature Reserves. Surveys will be at two-month intervals with additional visits at times of particular interest such as during the breeding season and as the wetlands dry out in summer. Emphasis will be placed on determining the species of

waterbirds which utilise each reserve; their numbers, and the extent of breeding activity. All waterbird species will be covered, not just ducks and swans. Thus the survey will also include grebes, pelicans, cormorants, herons, egrets, bitterns, ibises, spoonbills, dotterels, plovers, sandpipers, stilts, avocets, gulls, terns, water-hens, crakes, rails, etc. In addition to receiving survey forms and booklets, observers will also be supplied with "kits" for each of the Wetland Nature Reserves they cover. Each kit will include location and access maps, a black and white aerial photograph of the area to be surveyed, and historical data on seasonal changes in water depth and salinity. Roger Jaensch will also spend much of his time in the field assisting observers with survey methods. During the last two years of the project (1983 and 1984) **all** Western Australian Wildlife Authority vested Wetland Nature Reserves in the south-west will be surveyed.

All data will be stored and analysed by computer to provide fast and comprehensive feedback to observers. The R.A.O.U. will also produce annual summaries of the information obtained and a final report at the end of the four years discussing the methods employed, the results and their implications for management both of waterbirds and Wetland Nature Reserves.

Over the past three years, Technical Officer Don Munro of the Department's Waterbird Research Group has installed depth gauges on 80 of the wetlands to be surveyed. These gauges have been installed primarily to assist in the duck season decision-making process, however they will also be involved in the R.A.O.U. project. Water depth and water quality are important factors affecting waterbird usage of wetlands. Monitoring of depth and quality (initially salinity and pH) at two monthly intervals throughout the project will make it possible to quantify relationships between these factors and use by various species and thus will enable us to reach more definite conclusions about habitat preferences of waterbirds than has

▲ Beverley Lakes, Shire of Beverley. — Photo J. Lane.

▲ Shoveller duck — Photo A.G. Wells.

▼ Tidal flats at Alfred Cove, Swan River. — Photo J. Lane.

▲ Lakes Gore, Carbul, Kubich and Gidong, Shire of Esperance. — Photo J. Lane.

▲ A massed flight of Pelicans. — Photo Copyright A.G. Wells.

▼ Shark Lake, Shire of Esperance. — Photo J. Lane.

been possible in the past.

The third objective of the project is to provide appropriate experience for future monitoring of waterbird abundance. At the present time, there is no effective monitoring of waterbird populations in the south-west of W.A. This is an undesirable situation. It means that major changes in the conservation status of waterbird species can occur without our knowledge. It is probable that population declines of 80-90% would be required at present before "alarm bells" would start ringing. When a species has declined to one-tenth of its former abundance and is still going downhill, that doesn't give wildlife managers much time to research the problem, determine the cause or causes, and take — if possible — remedial action. Clearly there is a need for a monitoring system to give us earlier warning of changes in the abundance of waterbird species.

Two alternative systems are possible. One is for Government to provide the Department of Fisheries and Wildlife with additional staff and money sufficient to carry out extensive annual surveys of waterbird populations of the south-west. At today's prices, this would cost in excess of $100 000 per annum. The other alternative is to provide sufficient funds for a non-Government group (such as the R.A.O.U.) to co-ordinate surveys by amateur ornithologists. The advantages of this second alternative are firstly that the financial cost would be far less (probably one-tenth of the cost of a survey using paid staff); and secondly, a survey using amateur observers (amateur only in the sense that they are unpaid) necessarily involves greater public awareness of wetlands and waterbirds, and wetland/waterbird conservation issues. The Waterbird Survey Project, in addition to fulfilling its own objectives, will provide a valuable training ground for participants in any future project to monitor the conservation status of waterbirds in the south-west. It is therefore an important development of wildlife conservation in Western Australia.