

**Burrows, Neil** (from DPaW Science Division website)



After graduating in 1977, I joined the Forests Department of Western Australia as a fire research officer based in Manjimup. From 1977 to 1988 I worked on the development of fire behaviour models and fire danger rating systems for *Pinus radiata* plantations and jarrah forests. I also studied some impacts of fire in these ecosystems and was involved with several biological surveys in southern forests and woodlands. I was the Manjimup Research Centre Manager from 1983-1988. I transferred to Perth in 1988. From the Woodvale and Como Research Centres, I continued to investigate aspects of fire ecology in banksia woodlands, wandoo woodlands and jarrah forests. I commenced studies of fire regimes and fire behaviour in hummock grasslands which culminated in a first version fire behaviour guide and operational aerial patch-burning in arid zone nature reserves. I worked on an experimental fauna reintroduction project in the Gibson Desert Nature Reserve and later on a large scale fauna reconstruction project on the Peron Peninsula. In 1994 I completed a PhD on modelling the behaviour and impacts of fire in jarrah forests. During my career as a research scientist, I have been assisted at various times by Bob Voutier, Bob Smith, Alex Robinson, Bruce Ward and Karen Maisey.

Forests Department of Western Australia (1977-1985) and Department of Conservation and Land Management (1985-1998).

1977-1979: Assistant District Forest Officer, Manjimup: - Designed, implemented, analysed and reported on a series of experiments to develop and evaluate novel techniques for ameliorating wildfire hazard in *Pinus radiata* plantations. Investigated impacts of fire on trees. Developed operational prescriptions for reducing fire hazard by a) mechanical reduction, b) grazing and c) prescribed use of fire.

1979-1982: District Forest Officer, Manjimup: - Designed, implemented, analysed and reported on a major fire experiment to model the behaviour of jarrah (*Eucalyptus marginata*) forest fires burning under dry fuel conditions. Conducted complimentary research into acute impacts of fire on jarrah and marri (*C. calophylla*), on *Banksia grandis* populations and on soil heating and legume regeneration. Participated in biological surveys of southern forests.

1982-1988: Research Officer and Officer In Charge, Manjimup Research Centre (1983-88): - Investigated the behaviour of mass ignition, high intensity jarrah forest fires in association with Project Aquarius, a national bushfire research initiative to evaluate the effectiveness of water bombers in bushfire suppression in Australia. Expanded research into the long term effects of various fire regimes on upland jarrah and ecotonal forest communities. Investigated the role of fire in regenerating cutover stands of *Eucalyptus wandoo*. Developed prescriptions for regenerating wandoo forests/woodlands using prescribed fire. Participated in biological surveys in southern forests and Dryandra woodland. Developed fire management protocol for Dryandra forest.

Managed science projects and the resources of Manjimup Research Centre, consisting of 28 staff. This involved staff management and administration, budget control, building maintenance, public liaison and liaison with operations staff.

1988-1992: Senior Research Scientist, Western Australian Wildlife Research Centre, Woodvale, Program Leader, Fire Program: - Maintained research into effects of fire on jarrah forest flora. Examined fire response of some rare flora. Established fire response data base for flora. Planned, implemented and completed research into the behaviour and some effects of fire in hummock grasslands. Developed management prescriptions for patch-burning remote desert reserves using aircraft. Assisted with the planning, co-ordination and implementation of Project Desert Dreaming, an experiment designed to determine the causes for mammal decline/extinction in the arid zone. Enrolled as a part time, external PhD student, Department of Forestry, ANU. Carried out Fire Program Leader duties which included coordinating and reviewing research, managing program staff and budgets, etc.

1992-1995: Principal Research Scientist, Section Manager (Natural Products), Como Research Centre: - Successfully completed Ph.D thesis entitled "Experimental Development of a Fire Management Model for Jarrah (*Eucalyptus marginata* Donn ex Sm.) Forest." Maintained research into the long term ecological effects of fire regimes on jarrah forest flora. Developed a novel forest fire regime to meet protection and conservation objectives based on vital attributes of key species. Initiated research into the role of fire in rehabilitating areas disturbed by mineral exploration in desert ecosystems. Project leader, Kingston project, an integrated study of the effects of timber harvesting on jarrah forest ecosystems. Member of a consortium to investigate and develop the pharmaceutical potential of the plant extract conocurvone. Commenced ecological survey of various Conospermum species in Kwongan. Operational Plans

coordinator (feral predator control and fire), Project Eden, an operational trial to control feral animals on the Peron Peninsula with a longer term view to reintroduce native fauna. Section Manager, Natural Products Section, Science and Information Division, CALM. This involved the supervision and administration of twelve research scientists and seventeen technical officers. Continued with studies of control measures for feral cats in the arid interior (Gibson Desert).

1995-1996: Manager, Biological Conservation Group, Science and Information Division, Woodvale Research Centre. In this role, I managed and led a group of some fifty people engaged in a variety of research activities to provide the scientific information necessary to assist with the conservation of the State's flora and fauna. This involves supervision and management of all marine and terrestrial wildlife research undertaken by the Department of Conservation (forty scientific and technical staff) and participation in policy formulation.

Current Position: Director, Science Division. This role involves determining the scientific outcomes necessary for CALM to fulfill its mission, assembling the appropriate resources, and coaching and leading a talented team of people to deliver these outcomes in an efficient and timely manner. I am also a member of CALM's Corporate Executive.