Making sense of Science and Information

CALM's Science and Information Division is divided into four Groups. Three of these are actively science based—Bio-Resources, Bio-Conservation, and Sustainable Resources—while the fourth—Science Services—delivers mainly corporate services.

by Penny Walsh

This structure has been devised not so much to keep the groups separate, as to identify their different focuses and allow for cross fertilisation.

"We wanted to create something of a Department in microcosm," said Acting Director of the Division, Dr Neville Marchant.

"While each group has its own objectives, they work closely together. There are also collaborations with scientists from the CSIRO, universities and other government agencies."

Each of the four sections has a Head who is responsible for coordinating the scientific expertise within the group, and forming project teams.

Bio-Resources Group

Head of the Bio-Resources Group is Dr Neville Marchant (currently Acting Director of the Division in Jim Armstrong's absence).

Bio-Resources involves the systematic inventory of biological and ecological information on the State's plants and animals, as well as documentation of landscape characteristics and ecological communities.

The Group is divided into two sections: the Community Resources Section which focuses on documenting ecological communities across the State; and the Species Resources Section which relates to an inventory of all the plants and animals.

"Western Australia's megadiversity makes the task of bioinventory an enormous one, fortunately computers have saved the day," said Dr Marchant.

Information on plants, animals and their habitats is stored on computer and used when determining conservation value, developing land management techniques, and providing biological data on threatened taxa and taxa with economic value.

"CALM's herbarium, for example, serves as a massive information centre with 350,000 plant specimens in its collection. Although that sounds a lot, it isn't when you consider we are dealing with a diverse area of 2.5 million square kilometres."

Dr Marchant's introduction to the taxonomic field came as a 16 year-old assistant at the Herbarium. He went on to study Botany at UWA and worked as a Graduate Assistant teaching taxonomy, plant anatomy and morphology, and general botany.

After winning an Australian Legacy Scholarship he moved to Cambridge University as a PhD student in plant taxonomy. In his final year he applied for a botanist position back at the WA Herbarium and duly returned in 1970.

Apart from two secondments to UWA, Dr Marchant remained there until the Herbarium became part of CALM in 1988 and he became senior botanist. The position as Head of Bio-Resources followed.

Bio-Conservation Group

Newly appointed Head of the Bio-Conservation Group is Dr Neil Burrows.

The main focus of Bio-Conservation is to provide a scientific basis for the management of the State's fauna and flora, especially rare or threatened species and communities.

The group also identifies threatening organisms and processes such as introduced predators and diseases, and determines the most effective control measures.

Principal clients of this group are the parts of CALM which effect conservation through policy and management. At a wider community level, the Group is also a major source of practical expertise in species and community conservation.

Bio-Conservation is divided into the Community Conservation Section which looks at the structure and stability of terrestrial and aquatic communities; and the Species Conservation Section which focuses specifically on threatened and other priority conservation taxa in WA.

Dr Burrows joined CALM's predecessor, the Forests Department, in 1977 as a forest research officer in Manjimup. His initial work involved researching fire behaviour and impacts in pine plantations and jarrah forests.

Dr Neville Marchant and Dr Ian Abbott. Photo by Penny Walsh

In 1982 he became officer in charge at the Manjimup Research Centre, where his work on fire research continued, along with the administration and management of other research staff at Manjimup.

In 1988 Dr Burrows moved to the position of senior research scientist at Woodvale, where his work extended to fire in hummock grasslands. He was principal research scientist and manager of the natural products section at Como until his recent appointment as Head of Bio-Conservation.

Sustainable Resources Group

Head of Sustainable Resources is Dr Per Christensen.

The role of Sustainable Resources is to provide information that ensures the natural resources CALM is responsible for managing are used in a sustainable way with the least possible disturbance to and effect on the environment.

This includes the provision of information on growing exotic plantation trees for wood and other products, as well as to alleviate the pressure on local species.

The Group is made up of two sections: Natural Products and Tree Crops.

The Natural Products Section undertakes scientific research into the management and use of species from which natural products are derived, and provides advice to managers in these areas. It also explores the possibilities for developing new products whether independently or in collaboration with other organisations.

The Tree Crops Section covers plantations that range from those where the sole aim is wood production, through to those where the goal of tree plantings is either to rehabilitate a degraded environment or prevent the degradation of an environment.

Dr Christensen began his forestry career in 1958 in Kenya where he worked in the districts and later in research. He came to WA in 1968 and began work with the Forests Department as an assistant district forest officer at Manjimup. He carried out research into Karri silviculture, dieback and forest ecology.

Between 1974 and 1977 he gained a PhD from UWA in the Biology of the Woylie and the Tammar Wallaby in Relation to Fire. He returned to Manjimup and became an inspector of research.

Dr Christensen was appointed superintendent of research a couple of years before the Forests Department became CALM. This effectively made him second in charge of forest research. He has been Head of the Sustainable Resources Group since its inception.

Science Services Group

Head of the Science Services Group is Dr Ian Abbott. This Group ensures that essential financial, computing, biometrical and publishing services are provided to support the Science and Information Division.

The Group is also responsible for the Department's vegetation health services, which focus primarily on identification of pathogens.

Science Services takes a 'big picture' approach to much of the work that is done within the Division. It is responsible for checking there is a coordinated approach to the formulation of project proposals, as well as advising on the best use of computer resources.

Within the financial area, Science Services oversees the expenditure of between two and three million dollars worth of external grants. The group also oversees the publishing and dissemination of scientific research a technical investigations.

The Science Services Group is divided into several sections: Information Science, Biometrical Services, Financial Services, Threatened Flora Seed Centre and the Vegetation Health Service.

As well as heading the group, Dr Abbott serves as Science Adviser to the Director of Science and Information. He joined the Forests Department in 1979 as a research officer studying, among other things, the effect of fire in jarrah forest on soil and litter invertebrates.

As a forest entomologist, his work expanded to include research into the Jarrah leaf miner and other insect pests. In 1987, Dr Abbott became involved in research administration, and in 1992 he accepted the position of Science Services Group Head on an Acting basis.

Dr Neil Burrows and Dr Per Christensen. Photo by Penny Walsh

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Neville Hardcastle (left)
Neville Hardcastle
+ Jan Abbott

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