

# Vital Importance of Habitat

BY DON BRADSHAW

**Destruction of an organism's habitat is one, if not the major, cause of species extinction in Australia. Protecting habitat is the key to halting Australia's declining biodiversity.**

The need to protect and preserve Australia's unique and diverse flora was recognised early by legislation passed in the various states. However, the case was not so simple with fauna, many species of which were regarded as vermin and others hunted for their skins. Permits are still issued to farmers in South Australia to shoot wombats. Animals also move and, while it is easy to protect the place where a plant grows, defining an animal's habitat is more difficult and depends on detailed research.

Typifying national problems, Western Australia's *Wildlife Conservation Act 1950* (WCA) was cobbled together in 1975 from two existing Acts – *The Fauna Protection Act 1950* and the *Native Flora Protection Act 1935*. *The Fauna Protection Act 1950* evolved from and repealed *The Game Act 1912*, which was designed to preserve native and introduced species for the purposes of hunting.

However, the WCA does not bind the Crown, which includes the Department of Environment and Conservation (DEC) as the administrative body statutorily empowered to enforce the Act.

In 1991 the Department of Conservation and Land Management, the forerunner of DEC, declared that it would "seek legislation to provide that the *Wildlife Conservation Act* binds the Crown with respect to threatened and specifically protected fauna... and protect the habitat

of sedentary taxa of threatened and specially protected fauna and key habitats of nomadic and migratory taxa".

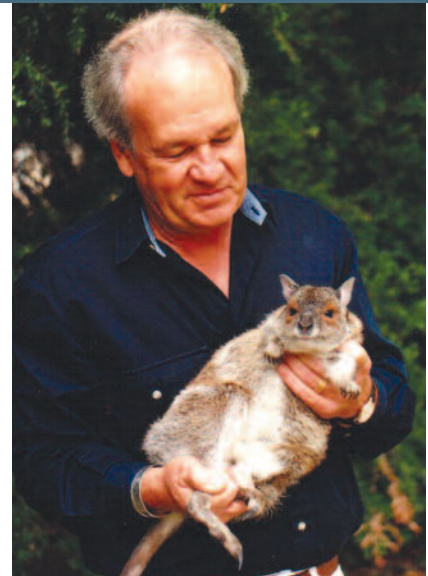
A discussion paper was released but no legislation has been presented to the Western Australian Parliament, meaning that while it is an offence to take or kill a rare animal it is not an automatic offence under Western Australian law to destroy its unique habitat!

The federal *Environmental Protection and Biodiversity Conservation Act 1999* lists a number of threatened and endangered species and offers protection to these and their habitat. Western Australia thus relies on the federal legislation to trigger conservation issues. This only applies to those species listed in the Act, however, and only 91 of the 250-odd species of mammals in Australia are listed.

Among the many threatening processes that lead to habitat destruction and eventual loss of biodiversity are:

- clearing for development;
- introducing exotic competitors like sheep, rabbits and weeds;
- salinity;
- plant pathogens like *Phytophthora cinnamomi*; and
- fire.

The effects of fire on habitat are perhaps the least well-understood, and debate rages over the benefits and perils of prescribed burning, especially following the devastation of this year's Victorian



Prof Don Bradshaw holding a spectacled hare wallaby, one of the many rare and threatened species found on Barrow Island, the site of the recently announced Gorgon gas project.

Photo courtesy Prof Bradshaw

bushfires. But the widespread belief that Australian plants are adapted to fire and, in many cases, depend on it for their effective reproduction is without scientific substantiation and turns on what we mean by adaptation.

Our native plants are certainly tolerant to fire, which has been an ever-present feature of the Australian landscape for millions of years. This does not mean, however, that the features we associate commonly with their survival after fire, such as resprouting and release of seeds, have evolved with fire as the selective factor.

Recent research suggests that many of these traits have evolved in response to other factors, such as drought and poor soil quality, and that this has simply pre-adapted them to survive in regions where fires are common. Too much or too frequent fire, however, can spell their doom.

We urgently need more research that focuses on these many issues if Australians are not to be mute witnesses to the rapid extermination of our unique wildlife in the next 20–50 years.

Emeritus Professor Don Bradshaw held the Chair of Zoology at the University of Western Australia from 1976 to 2004. An ecophysiologicalist, he has published widely on how Australian animals adapt physiologically to their particular environment and on identifying threats to their long-term conservation. *conScience* is a column for the expression of forthright views on national issues. Views expressed are those of the author.