

# Over-burning pressures Top End's biodiversity

OVERLY FREQUENT and widespread burning could be damaging the biodiversity of northern Australia's savanna bushland, according to results from one of the world's largest fire experiments, which involved CSIRO researchers.

The Kapalga fire experiment, covering more than 250 square kilometres, tested four major fire types common in the Top End.

Published in the recently launched book, *Fire in Tropical Savannas: The Kapalga Experiment*, the study showed

that while fire is ecologically important to the north's environment – more than 30 million hectares are burnt annually – biodiversity is optimised if substantial areas of savanna are only burnt once every three to five years.

CSIRO ecologist Dr Alan Andersen said that although fire managers in northern Australia have the right approach with the use of prescribed fire, more consideration must be given to fire frequency. He pointed out that the long-term effects on biodiversity have not been well understood, and that conservation managers need this new information to help them to work effectively.

'At Kapalga we were able for the first time to look at the effects of fire on the whole ecosystem. The experiment involved researchers from universities and other organisations, as well as CSIRO, covering topics including fire behaviour, atmospheric



CSIRO Sustainable Ecosystems

CSIRO technical officer, Gus Wanganeen, trapping small mammals (here a bandicoot), as part of the experiment. Researchers found that small mammals, many of which have experienced recent population declines in the north, were especially sensitive to frequent fire. High numbers of small mammals only occurred in habitat that remained unburnt over the five-year experimental burning period.

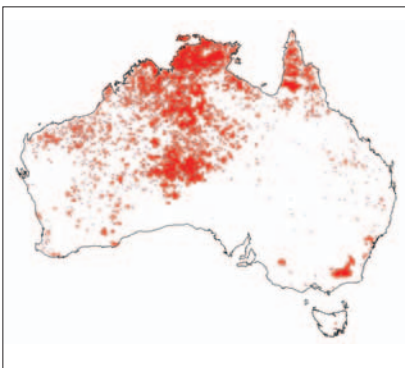
chemistry, nutrient cycling, hydrology and stream dynamics, vegetation, insects and spiders, and all vertebrate groups,' Dr Andersen said.

While the Kapalga experiment provided much valuable information, researchers point out that there is still a great deal to understand about the ecolog-

ical effects of fire in the northern savannas. Management will need to be continually refined by information obtained from effective ongoing monitoring.

*Fire in Tropical Savannas: The Kapalga Experiment* available through [www.terc.csiro.au](http://www.terc.csiro.au)

Bushfires Council NT & WA DOLA



A map of fires across Australia (April 2002 to April 2003), clearly illustrating their extent in the northern regions.

## Monitoring for illegal Antarctic fishing

New Zealand, the US, and other members of the 20-nation-strong Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) have backed Australia's proposal for a centralised vessel monitoring system to fight increasing illegal, unreported, and unregulated catches in Antarctic waters.

Endorsed during the recent CCAMLR negotiations held at the end of October in Hobart, the system will allow member countries to independently validate the position of their fishing fleets via data sent back to the CCAMLR's Hobart Secretariat.

Highlighting the outcome, Parliamentary Secretary for the Environment and Heritage, Dr Sharman Stone, said 'Australia is determined to make it too tough for poachers. Illegal fishing is particularly frustrating for those countries who insist their nationals take a responsible approach to sustain fish stocks through catch limits...'

Increasing poaching threatens valuable species such as the Patagonian toothfish and has a devastating effect on thousands of seabirds such as albatross, which are accidentally caught.

Australia supported additional measures to strengthen



CSIRO Fisheries and Marine Research

Dr Keith Sainsbury of CSIRO Marine Research with a Patagonian toothfish, a highly sought after species in Antarctic waters.

the current catch documentation system designed to thwart rogue operators, and helped set

conservative total allowable catches in the various zones where data is scarce.