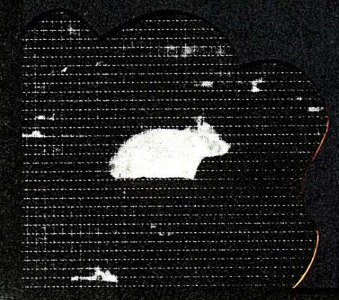
BACK BOX

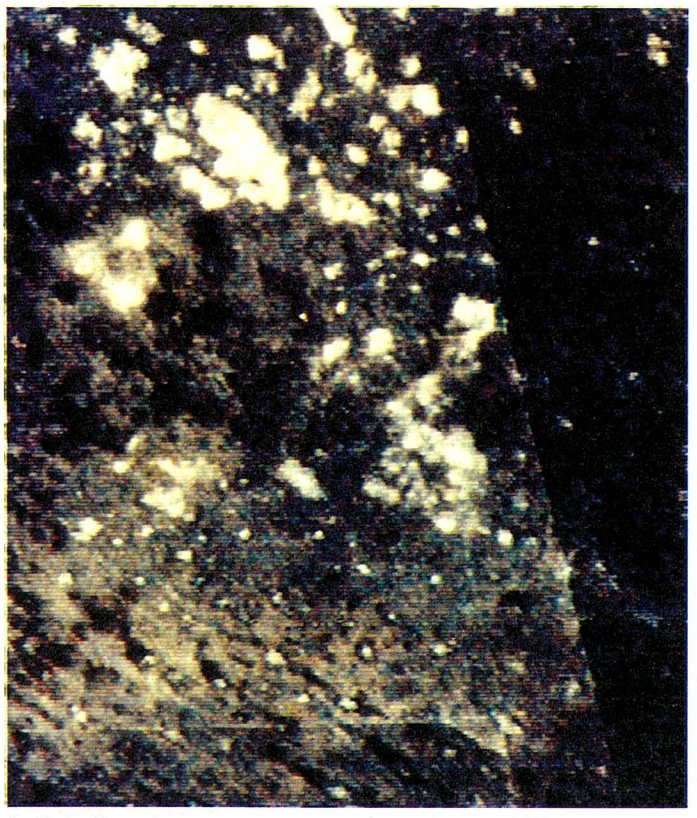


# Signs of wombats from space

During a land resources survey of South Australia, two CSIRO scientists were intrigued by a great number of conspicuous white patches on Landsat satellite images of the southern fringes of the Nullarbor Plain. The patches ended sharply at a straight line marking the location of a vermin-proof fence.

When the scientists — Dr Ernst Löffler and Mr Chris Margules, of the Division of Land Use Research — flew over the area and then set foot on it they found the explanation. Each patch on the satellite images corresponded to the bare ground of a wombat colony. The animals were identified as *Lasiorhinus latifrons* — the hairy-nosed wombat — a species that occurs in large numbers on the Nullarbor Plain.

A hairy-nosed wombat.



**A digitally enhanced Landsat picture of the Nullarbor Plain. The white blotches are wombat colonies.**

With its thick legs and strong claws, the hairy-nosed wombat is a powerful digger. The areas of bare ground are a result of the animal's burrowing and mound-building.

The wombats live in colonies containing, usually, between 10 and 30 warrens. The colonies vary in extent from tens of metres to as much as 1 kilometre. Each warren contains 10–15 burrows on average and forms a distinct mound, rising up to a metre above its surroundings.

Individual warrens are too small to be seen from space, but unusually small colonies of three or four appear as a single white picture element, and bigger colonies are proportionately larger. Areas around the colonies are denuded of vegetation and from 900 km up look paler than vegetated ground.

The wombat is supposedly a grass-eater, but the present observations give support to claims by graziers that it eats desert shrubs too.

Not surprisingly, graziers and conservationists view the animal differently. Graziers say that growing wombat numbers are threatening the viability of their enterprise. Conservationists argue that the species faces enough environmental pressures already without adding human opposition.

More data are needed, and the research pair believe that Landsat pictures lend themselves well to assessing the effects of wombats on the land. Monitoring the extent of the wombats' range could also be done this way.

Recent Landsat pictures, to compare with the original (1972) wombat-revealing shots, are not yet available in the right form. (The pictures require computer enhancement to show detail — a specialized task.) Nevertheless, the CSIRO workers got the impression from a reconnaissance flight over the area in 1976 that, for better or worse, wombat numbers had increased significantly.

*Andrew Bell*

Wombats detected from space. E. Löffler and C. Margules. *Remote Sensing of Environment*, 1980, **9**, 47–56.