New Geological Guidebook Series

New Zealand has been described as a land of "little landscapes", a country where considerable landscape diversity is found within a relatively small geographical area. Although it is the geology that provides the basis to these landscapes, the recognition of the part that geology plays in establishing the character and quality of the New Zealand landscape is not widely appreciated.

Geological features have not generated the same amount of public interest as have our plants and animals, yet New Zealand has many dramatic landscapes in which geological features play a key role.

A new series of quality geological guidebooks by the Geological Survey in association with Landscape Publications could change this lack of recognition. The first of these *Reading the Rocks: A Guide to the Geological Features of the Wairarapa Coast* is due for release towards the end of the year.

The book, along with the rest of the planned series, is both a guidebook and a quality reference text. Its large casebound format (275 x 210mm) allows the colour plates by photographer Lloyd Homer be used to their maximum advantage, and the six laminated field guide cards (210 x 148mm) containing key descriptive and pictorial information have been designed to be taken into the field. When not being used the cards are kept in a pocket inside the book. In effect it is two books in one.

Honeycombe Rock/Glenburn Coast. Lloyd Homer

Reading the Rocks comprises a combination of aerial oblique, ground level and close up photographs, complemented by a text by NZGS geologist Phil Moore. The text, mainly by way of expanded captions, describes the 16 geological features covered. In addition several line drawings are included to provide extra detail on some of the geological processes described.

The series should appeal to the public, students and scientists alike. It will cost $34.95 (incl. GST).

Fascinating Facts About Native Bats

The fact that the endangered kakapo is a lek species has been known for sometime – but scientists have now discovered that the short-tailed bat is another lek species.

Lek behaviour refers to the practise of male animals – insects, fish, frogs, birds and mammals – congregating together in traditional sites where they call and display to females.

DSIR Ecology Division researcher Mike Daniel recently went to Codfish Island, the 1500-ha reserve km northwest of Stewart Island, to observe the bizarre mating ritual of the short-tailed bat. That and the long-tailed bat are our only native mammals.

On Codfish Island – incidentally the island where the kakapo is at its most numerous – the bats fight for small holes in trees. From these they 'sing' for up to 10 hours a night for 10 to 12 weeks in what is considered a pretty exhausting exercise and one that places them at risk from predators. People can hear the high-pitched pulsating warble for over a distance of 50 metres.

Each night female bats visit the traditional holes to mate. However, most of the males fail to attract a female, a feature common to all lek species. Scientists do not know whether the female is attracted by a vigorous display or whether the location of the tree is the key. A further unexplained feature of short-tailed bat breeding is that the young are born in the middle of winter, six months later than bats in North Island kauri forest which do not have a lek system. They are born without fur and at a time when there is little food – factors scarcely conducive to survival of the species!

The short-tailed bat – scientists are uncovering some of their hitherto secret mating habits. This one was photographed in a kauri forest.

In other ways the short-tailed bat is unusual. Although it can fly 20-30 kms per night, it in fact spends a lot of its time scuttling up and down tree trunks or into seabird burrows. They eat flying insects, insects on the ground, fruit, pollen and nectar.