

## Karori predator fence completed

**T**heir boundary fence has taken three years to design and eight months to construct, but in August the Karori Sanctuary Trust celebrates the completion of the final section. The predator-proof fence surrounds Reservoir Valley in the hills behind Wellington.

The 8.6-kilometre fence will secure the valley from pest reinvasion, allowing the site (less than 3 kilometres from Parliament Buildings) to be developed as the first urban 'mainland island' sanctuary in New Zealand.

Costing \$2.1 million, the fence incorporates a number of conservation firsts, according to the general manager of the Karori Sanctuary, Stephen Fuller.

'It is the first fence able to exclude all introduced mammalian pests. It does not rely on electrification, and is the first design which aims to exclude mice,' he says.

'The key to the design is the "top hat", which is effective against the most agile climbing predators, and the use of a little-known product called "woven wire" to create an extremely strong mesh wall capable of stopping juvenile mice, the size of your thumb nail.'

The design of the fence was the result of an extensive series of animal trials, which gave the design team a unique insight into the capabilities of New Zealand's destructive pests and predators. Stephen Fuller says this research has given the sanctuary trust a sense of security as to the effectiveness of the final design.

'The fence has been trialled under more rigorous conditions than that it would face in the wild,' he says. 'We tested the various components of the fence against some of the most capable predators, such as possums, feral cats and stoats.'

'The design is expensive compared to traditional predator fences, but it has the benefits of durability and low maintenance costs — absolutely essential qualities given the urban setting and high public use of the valley.'

Funding for the fence has been

provided by the Community Trust of Wellington, the Lottery Grants Board Environment and Heritage Fund and the Nature Heritage Fund.

While the conservation benefits of a fence which can exclude both rodents and possums is obvious, the fence's next practical application could be securing economic sites of value which suffer from pest problems, such as power stations and food manufacturing plants. The sanctuary trust is already discussing the potential use of the fence technology with two major New Zealand companies who have particular problems with pest invasion.

Construction of the fence presented few problems, according to Stephen Fuller. 'The valley is a self-contained catchment, which meant that we did not have to fence over

*Above: The new predator-proof fence around the Karori Sanctuary cost \$2.1 million. Key elements in the 8.6-kilometre structure are the 'top hat', which prevents predators climbing over, a buried footing which prevents burrowing, and a 'woven-wire mesh' fine enough to deter even baby mice.*

*Below: Much of the Karori Sanctuary is in over-mature pines but the native growth along the valley floor indicates the potential for regrowth. The sanctuary trust looks forward to a dense forest in 500 years.*



water courses, and 70 percent of the fence line was constructed on existing tracks along ridge lines.

'With two large Wellington suburbs on our boundary, the biggest potential problem was managing safety issues during the construction of the fence.'

The next challenge for the Karori Sanctuary is to remove all the pests and predators from the valley. Fourteen animal species are targeted for removal, the most ever attempted in a single

eradication programme. It will also be the first comprehensive pest eradication ever attempted in an urban environment.

The eradication programme will be implemented by a senior conservation officer from the Department of Conservation, Raewyn Empson, who was responsible for the removal of rats from Kapiti Island. She has been seconded to the trust for two years to assist with the eradication and restoration programmes. By



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December 1999, the sanctuary site will be pest-free and the trust will begin restoration work and development of visitor facilities.

The Karori Sanctuary is expected to be officially opened on New Year's Day 2001, with the release of little spotted kiwi in the valley — the first time wild kiwi might be resident in Wellington for over 100 years.

'The completion of the predator-proof fence is just the first stage in a 500-year project that will result in a mature, podocarp forest, teeming with native wildlife in the middle of our capital city,' says Stephen Fuller.

'While we will not see the final result, the immediate impact on the health of the valley with the removal of pests should be dramatic. Within 10 years, Wellingtonians will wake to the noise of the dawn chorus in their backyard. It is a vision which we are determined to achieve.' — *Steve Thompson, Karori Sanctuary Trust.*

*The Karori Sanctuary Trust is chaired by Jim Lynch, a former chair of Wellington Forest and Bird. The methodology of the fence trials was outlined in Conservation Briefs, in Forest & Bird, May 1997.*