

Marine Reserves: Spreading the idea

by Russell Joyce



The clear waters around Stewart Island support rich seaweed beds of bull kelp, important commercial species such as paua, crayfish and blue cod and living fossils called brachiopods. Such a marine environment deserves protection. Photo: Gerard Hutching

AUCKLAND UNIVERSITY marine biologist Dr Bill Ballantine likes to tell a story about the Leigh Marine Reserve where he lives and works, 100km north of Auckland.

The heavy concentration of marine life which has chosen the five square kilometre reserve as home attracts thousands of people a year. Occasionally some of those visitors ask him how the university can afford all the bright buoys which mark the reserve's perimeter.

Dr Ballantine is happy to explain: the buoys are proof that the 10-year-old marine reserve works. In fact they are tied to crayfish pots carefully placed around the boundary by commercial fishers who know that the Leigh reserve holds the greatest concentration of crayfish anywhere in the area.

It's not that the coastline habitat is anything special, he says. It's just that nobody has been allowed to catch or kill anything there for ten years. It now reflects what the rest of our coastline could be like without human interference.

Startling Results

An Auckland University student recently spent a year diving at Leigh, studying crayfish and comparing their numbers with those outside. The startling results showed crayfish

numbers to be 20 times greater than in similar surrounding shorelines.

"That's not twenty percent more, that's 2000 percent more," Dr Ballantine emphasises. The numbers are still rising and the weights are greater than elsewhere.

"Nobody had predicted this when Leigh was set up. In fact if we had made a prediction it would have been that the reserve would have made no difference to crayfish numbers.

"What we knew about crayfish was that they hatch into larvae and drift off in currents for up to 18 months. They're extremely unlikely to end up where they started.

"What we found at Leigh was that the adult crayfish don't migrate. They stay and, because nobody is touching them, they build up in numbers. And that's fairly shattering because it suggests that what we've been doing in the rest of the country is not very sensible and the programmes our fisheries management are based on are not even true.

"You would think the crayfish at Leigh might be overcrowded – they aren't. You might think that they are short of food and slower growing, but they aren't.

And it's not only the crayfish which have benefitted from the reserve, Dr Ballantine says. Snapper abound in great numbers while

the red moki population is estimated to be about 250 percent greater than elsewhere.

Reserve Advocate

Dr Ballantine does not hide the fact that he is pro-reserves. His aim is to see ten percent of New Zealand's coastline turned into protected marine areas.

"I'm pushing for more reserves. I live next to one and I think it's pretty good. The question is do we just want one – like you have one set of crown jewels – or is there some point in spreading the idea elsewhere?"

Presently the Department of Conservation (DOC) is contemplating setting up such reserves around the country. The Royal Forest and Bird Protection Society has embarked on a campaign to see Bill Ballantine's dream come to fruition. Already it has proposed a reserve for Waitemata Harbour's Pollen Island – a feature of the marine reserves legislation is that organisations other than the Department of Conservation can nominate areas for reserve.

These days Dr Ballantine is often called on to speak at public meetings and disarm the often angry commercial and recreational fishers with his arguments and proof.

Part of that argument revolves around those crayfish pot buoys. It would be hard, if