Bagpipes gains a new foot

Digital printing: UC to the rescue

‘Bagpipes’ the penguin has happy feet once again.

The little blue penguin had his left leg amputated after it became tangled in fishing line in 2007 and has hopped and wriggled his way around his new home at the International Antarctic Centre in Christchurch ever since.

Bagpipes has been fitted with a 3D-printed replacement foot to help him swim, stand and waddle like a penguin should. The replacement foot has enabled his body weight to be distributed evenly for the first time in years. Perviously, Bagpipes had spent almost a decade with various foam beer bottle holders cut to size and wrapped around his stump to give him some support, but he still struggled. When he got out of the pool he was using parts of his body that he shouldn’t, like his beak and flippers, so the aim is that this prosthetic will help with that.

Antarctic Centre staff believed it was the first time a wild animal in New Zealand had been fitted with a 3D-printed prosthetic.

University of Canterbury senior lecturer in design and manufacturing Don Clucas said it took about 30 hours to design the foot. Bagpipes had his remaining foot scanned so a perfect replica could be created. Then Clucas worked on a computer design, refined the model and printed the prosthetic. “The hardest part was scanning his foot because he is quite wriggly,” he said.

The current prosthetic is made from plastic but the final fitting will include a rubber material to help Bagpipes with his grip.