

Fore-dune restoration at Sumner Beach

At Sumner Beach dune degradation has occurred over many years as a result of urban development and encroachment, and through the displacement of native species by exotics. This contributed to a period of many years where the Sumner dunes were largely absent or degraded with the remaining dunes largely colonised by Marram (*Ammophila arenaria*) and Lupin (*Lupinus arboreus*). In addition to biodiversity losses, this degraded beach system offered less protection from coastal inundation events, and sand frequently blew onto local roads.

To address this, the Sumner Coastcare Project was established with a focus on fore-dune restoration. Both Spinifex (*Spinifex sericeus*) and Pingao (*Ficinia spiralis*) had become locally extinct at Sumner Beach and their re-introduction is a key part of the project. In addition to their biodiversity values these species have other values which are especially important at the site.

Pingao is a recognised taonga species for Ngāi Tahu and is an important resource for raranga (weaving), yet populations sufficient for a cultural harvest are scarce in Canterbury. Although a small site, Sumner Beach is a relatively low energy system and appears to be a suitable habitat for Pingao. Meanwhile Spinifex is especially valuable at the site due to its ability to extend the fore-dune further towards the sea than other sand-binders. This is especially useful at the Sumner Beach site where the dunes cannot grow further inland due to the presence of roads and urban development.

The project itself is run by a dedicated local group with great support from the Christchurch City Council. We've also benefitted from visiting teams of volunteers from elsewhere in Christchurch who have come out to help with the bigger 'grunt' jobs at times. An example was preparing our newest restoration area with the help of the team from URS (Figure 1). This model has been working well to get the bigger jobs done leaving the local team to concentrate on ongoing maintenance activities.



Figure 1: Group of hardy volunteers on Sumner Beach

The project began with restoration of a section of the beach where the dunes had disappeared, creating a prominent low spot in the coastal margin. Planting activities in this area are now essentially complete and the good news is that the indigenous species are faring well. In monitoring completed in May the growth and seaward advancement of Spinifex was particularly noticeable from the same time a year before (see Figure 2&3).

The monitoring results generally show that the ongoing maintenance activities being used are working well to promote indigenous plant cover and dune rebuilding in this area and it is hoped that this will eventually lead to a self-maintaining system. As is always the case in volunteer projects

characterised by scarce resources the challenge is to get best bang for buck (and time!) so these recent results have been well received and show that the project is on the right track. In addition the project was stoked to win the NZ Dunes Trust award for “Best Community Project” in 2012. Much thanks to the NZ Dunes Trust for this acknowledgement and support, and we will be putting the prize money to good use in embarking on the next area for restoration further along the beach.



*Figure 2: Sumner spinifex
foredune one year after planting*



*Figure 3: Sumner spinifex
foredune two years after planting*