

**RESTORATION AND ENHANCEMENT OF INDIGENOUS
PLANT COMMUNITIES ON COROMANDEL DUNES**

**Sarah Beadel
Wildland Consultants Ltd
2015**

The 2015 Dune Restoration Trust Conference at Whitianga provided several very interesting field trips, including dunes at Whangapoua that had been planted recently following physical earthworks. This involved the use of machinery to remove the predominantly exotic vegetation cover, comprising species such as agapanthus (*Agapanthus praecox* subsp. *orientalis*), yucca (*Yucca* sp.), and blackberry (*Rubus fruticosus*), as well as the top layer of sand (with the weed seedbank). A hole was excavated in the dunes to bury that sand and vegetation. Replanting was done using a simple suite of indigenous species: spinifex (*Spinifex sericeus*) and pingao (*Ficinia spiralis*) on the foredune, with wiwi (*Ficinia nodosa*) and pōhuehue (*Muehlenbeckia complexa*) further back (see Plates 1 and 2). This approach has been used because it has been considered that this is the only effective way to address the control of the serious weeds present at these particular sites.

However, it is noteworthy that although these sites have been weed-infested, they also nevertheless harbour a relatively diverse (for sand dunes) range of indigenous plant species, including some species that are now uncommon or even absent from large sections of the New Zealand coast.

Indigenous species noted immediately adjacent to some of the restored Coromandel dunes visited on the field trip included *Zoysia pauciflora* (see Plate 4), native spinach (*Tetragonia implexicoma*), *Oxalis rubens*, sand wind grass (*Lachnagrostis billardierei*) (see Plate 5), meadow rice grass (*Microlaena stipoides*), and shore bindweed (*Calystegia soldanella*). One way to avoid the loss of these, and other indigenous species, from sites where physical works are to be undertaken would be to undertake a pre-works botanical survey at each restoration site. This should be done by an expert botanist (with good knowledge of indigenous and exotic species in dune habitats), to identify the indigenous species present at each particular site. Plants of interest could then be dug out and stored nearby, ensuring that there is an adequate protective amount of sand around them; preferably under cover. Once the site has been cleared of vegetation, these plants could then be replanted at the site. This approach would help to

retain the indigenous biodiversity of the sites subject to this type of intensive physical management.

In many places, such as small defined areas of dunes, and where there are committed residents or other volunteers, the indigenous plants present amongst a vegetation cover that is otherwise predominantly weeds can be managed back to indigenous-dominant vegetation through focused weed control by hand and using herbicides, with planting as required.

Methods suitable for particular sites need to be assessed on a case-by-case basis, following an initial botanical assessment.



Plates 1 and 2: Wivi planted following physical removal of vegetation from the dune.



Plate 3: Weed-infested area (right) and planted area left. Indigenous species present in the weed-infested area include wiwi, pōhuehue, bracken, meadow rice grass, *Lachnagrostis billardieri*, *Tetragonia implexicoma*, spinifex, pōhutukawa, and *Calystegia soldanella*. (See Plates 4 and 5 below.)



Plate 4: *Zoysia pauciflora* in dune vegetation immediately adjacent to the area shown in Plate 3 that has been replanted in wiwi.



Plate 5: *Lachnagrostis billardierei* in dune vegetation immediately adjacent to the area shown in Plate 3 that has been replanted in wiwi.

