

RESTORING A SWAMP SHRUBLAND

By Paul Drage

Our property is just north of Maungatautari it has a tawa remnant and steep hillslopes. We are restoring the bush with the hope that over time we will assist with providing a safe, diverse range of native flora for fauna to flourish. We have a small swamp that prior to 2018 had not been fenced and was grazed by sheep and cattle. The swamp was wet throughout the year, gently sloping mostly with a fibrous mat on top covered with exotic grasses. Underneath the fibrous mat (about 10cm) is water.

I decided to restore sections of the swamp at a time, using groupings of swamp shrubland species that were common within similar gullies around our local area. I also utilised the "What to plant in Maungatautari ecological district" planting guide to assist with determining which species to plant.

I noted in a number of gullies locally, that *Carex geminata*/commonly known as cutty grass or rautahi dominates, but from my experiences as a volunteer, it takes a long time to get *Carex geminata* to spread and dominate. I chose *Carex secta* and *Carex virgata* to create a sedge canopy to block out the light and out compete the exotic grasses. I had seen this technique used at Waiwhakareke Natural Heritage Park where I often volunteer. The exotic grasses were cut back to the ground (using a high-powered strimmer) exposing the mud and water. The sedges were given a haircut so that they were not top heavy, and a sharp narrow spade was used to break through the fibrous mat. The sedge was leveraged into the slot by pushing it down with a foot. The sedges were planted very densely between 200mm to 300mm between centres, so 9 – 12 per square metre.

The sedges have created a canopy that blocks out the exotic grasses and results in the native sedges dominating. My previous experiences of planting 2-4 sedges per square metre has resulted in the exotic grass still having sufficient light to dominate and this results in sedges being shaded and in some cases being buried under the exotic grass.



The swamp prior to restoration.

November 16th 2017, after planting



February 27th 2018 (3 months later)





Sedges planted during October 2020.



Sedges dominating a year later.

The pictures above show the technique being utilised in restoring the swamp (at 200 – 300mm spacing's between sedges).

To gain species diversity within the swamp I plant other sedge species, shrubs and trees amongst the *Carex secta* and *virgata*. As can be seen within the pictures below, I have planted *Cyperus ustatalatus* (giant umbrella sedge) and *Carex geminata* in dense groups of 20-50 plants. Over time the *Carex geminata* spreads and replaces the *Carex secta* and *virgata*:

Planting sedges densely assists with creating a canopy to block out exotic grasses allowing the slower growing native species to establish over time, however this method of restoration for a swamp can be costly. To assist with reducing my planting costs I grow my own *Carex secta* and *virgata*.



Top tips for growing *Carex secta* and *virgata* at home

- During the months of December and January gather the ripe seeds. Rather than germinating the seeds in a seed tray, scatter about 10 – 20 seed per 13cm pot filled with a good quality potting mix.
- Make sure the pots are watered, in a good sunny position and occasionally weeded.
- The sedges should be of sufficient size to plant in the swamp after 9 months without the need for potting on. October to November is a great time to plant the sedges as they grow very quickly with the light and warmth of this time of year.