Travis Wetland

June 2007

A newsletter from Travis Wetland Trust and the Christchurch City Council

PARK NEWS

Dates to remember

Travis Wetland Trust Work Days

Everyone is welcome! Workdays are held on the third Saturday of every month from 9am until 12.30 pm. Meet at the Beach Road car park, bring gumboots or boots and outdoor clothing suitable for the weather. The work days are an opportunity to become involved with the Travis Wetland Trust and learn about the restoration of Travis Wetland. Tasks vary according to the seasons and range from planting, releasing, weeding and invasive weed control.

- 19 May 2007
- 16 June 2007
- 21 July 2007
- 18 August 2007
- 15 September 2007
- 20 October 2007
- 17 November 2007
- 15 December 2007

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Brown teal (pateke) released at Travis Wetland

By Kristi Gray

Pateke released at Travis Wetland

An exciting new project at Travis Wetland has seen the return of the Brown Teal or pateke, a small native dabbling duck once a common sight on our wetlands.

Twenty of the wildfowl which have been bred by the Pateke Recovery Group in 15 different locations around the country were released yesterday at Travis in a trial aimed at repopulating pateke in the area. The wildfowl have been extinct in the South Island and the release aims to test how they will survive in a predator-reduced environment. They will be monitored for 12 months.

Travis Wetland ranger John Skilton says the project is an exciting venture between the Council and community groups. However the its success of will depend on keeping predators including domestic cats and dogs away from the pateke, he says.

"We are trapping for stoats and hedgehogs, but it is important that the birds are safe from other predators too," he says. "A domestic cat can travel up to 40 kilometres at night, so we pleading to people to control their pets, especially at night. Dogs are also a real threat to the birds so residents and visitors in the area need to ensure their dogs do not come into the wetland at any time.

Pateke were once widespread throughout New Zealand but are now rare and restricted to Great Barrier Island and coastal valleys of eastern Northland. The species has suffered an ongoing decline in numbers and range since the late 19th century. There are now currently fewer than 1000 Brown Teal living in a wild state in New Zealand, making it New Zealand's rarest waterfowl species on the mainland

Reasons for their decline include predation from introduced mammals, habitat loss through wetland drainage and estuary reclamation as well as exploitation and disease.

The pateke were released yesterday at a small gathering which included tangata whenua from Ngai Tuahuriri, DoC staff, Peacock Springs Staff, Travis Wetland Trust members, and Council regional park rangers.

Sanctuary Villas update

By Dave Evans

The previous newsletter reported on the housing complex being built adjacent to the northwest corner of Travis Wetland. Construction on the site has been underway since September last year. Most of the fencing between the site and the wetland is now complete. Some plants had to be relocated before the fence was erected, because they had been inadvertently placed on the wrong side of the boundary in a few places. At one point the fence runs very close to the Wetland Walk and a seat overlooking the wetland is being moved so the path can be realigned. Work is beginning on the swales that will discharge the stormwater from the site into the drain along the western side of the wetland. The access road for the villas has been formed and three of the villas have been constructed. Eventually there will be more than 20 villas, so it will be quite a while before they are all complete.

Ideal summer weather (Dave Evans)

The past summer was a good one for the plants at Travis Wetland. The wet end to 2006 assured a good survival rate for the spring plantings. Although the rainfall during the early part of 2007 was well below average, the moisture remaining in the soil from last year has helped prevent a lot of "infant mortality" over the summer. In the driest areas, the rangers and IHC workers have had to do the usual hand watering, but in the wetter areas little attention has been required and it is wonderful to see the new plants doing so well. More established plants also loved the wet conditions and have gone ahead in leaps and bounds. Occasionally when you straighten up to rest a tired back and lift your eyes from the next weed to be pulled out, you realise that natives are beginning to infiltrate the landscape previously overwhelmed by exotics. Flax spears and cabbage tree starbursts are overtopping the gorse and blackberry and the horizon is punctuated by ribbonwood spires. At ground level Coprosma and Pittosporum seedlings are peppering the soil under their parents and to get from one place to another you have to push your way through the native sedges. From the remaining willow trees, the fantails and grey warblers egg you on and you realise all the hard work is worthwhile. We are winning the battle against the alien invaders!

Help Needed

By Kristi Gray

The park rangers and Travis Wetland Trust members need your help in keeping dogs out of Travis Wetland. Dogs are not permitted anywhere in the park. Many of the wetland birds nest rest and feed on the ground and are therefore vulnerable to disturbance and attack. Dogs tend to threaten birds by instinctively chasing after them. In addition, when wetland birds are moulting in the summer, they become flightless and vulnerable to dog attacks. The new Horseshoe Lake Dog Park and Bottle Lake Forest offer ideal locations to walk your dog.

Recently pet cats have been captured (and released) from cage traps in the centre of the wetland. This shows cats are capable of moving through all types of wetland habitat including water. One way you can make a difference is to ensure your cat stays inside at night. This is when cats prefer to hunt and is the time when adult birds are sitting on nests brooding chicks or eggs and are particularly vulnerable to being attacked and killed.

Totara-Matai Hardwood Forest and Honda Tree Fund Grant

By Sean Ward

The Trust has been successful in a bid for $5000.00 in funds from the Honda Tree Fund administered as part of the Canterbury Regional Council's Environmental Enhancement Fund. This is a contestable fund that provides grants of up to $5000 to individuals and groups working to protect and enhance Canterbury's indigenous biodiversity. The money has been awarded for the purchase of plants associated with the Totara-Matai hardwood forest project.

An area of approximately 6 ha to 7 ha in Travis Wetland has been identified as suitable area for the establishment of a Totara-Matai Hardwood Forest. This is a forest community found on alluvial terrace soils. Restoration of plant communities is determined by matching plant species with the natural potential of the site including soil, topography, water regime and climate.

High planting density ensures rapid canopy closure and provides for losses. Canopy closure blocks light-reducing competition from weeds and reduces maintenance costs. For most of our restoration projects we estimate an average of 1 plant/m2. Therefore the total number of plants at 1 plants/m2 = 10000/ha or 60,000 – 70,000 plants for a 6ha/7ha area.

It is not intended that the total area will be planted all at once. Re-vegetation is an ongoing process and is governed by factors such as cost of plants, available labour and the ability to maintain new plants through the four to five-year establishment phase. It is also useful from a landscape perspective and maintenance regime to have different stages and ages of development in a restoration project. In all likelihood, the project as a whole will have at least a 10- year development phase in which initial plantings wil be made over the whole area and this will be followed by a progressive infill planting of species requiring more specific site conditions including shelter (provided by initially established plantings).

History of Travis Wetland

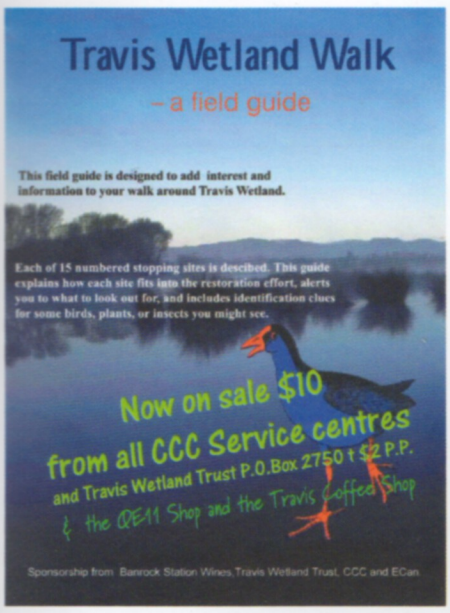
By Denise Ford

About 1600 years ago, Travis Wetland was part of an estuary into which the Avon river empted, similar to the Avon-Heathcote Estuary and Brooklands Lagoon as they are now.

As sand brought down by the Ashley and Waimakariri Rivers built up along the coastline, the Brighton Spit grew, forcing the Avon river mouth south. Over time the estuary sand bar closed off to the sea and the estuary became a swamp. The resulting decrease in salinity of the water made it possible for species such as flax, raupo, tussock, baumea sedges and manuka to replace the salt marsh species. Swamp margins would have been occupied by trees and shrubs such as totara and coprosma.

Travis Wetland was a mahinga kai, traditional resource gathering area, to Maori. The wetland would have been harvested for eels, fish and birds. Maori used harakeke (flax) for weaving baskets, clothing etc while raupo was used for thatch roofing. The Ngai Tahu Oruapaeroa Pa occupied the area of land adjacent to Travis Wetland that is now QE11Park.

With human occupation came fires and the introduction of animals and plants that competed with the native species. Before the arrival of the European settlers in the early 1840s, a system of wetlands stretched from Waihora (Lake Ellesmere) to the Kowai River. Travis Wetland is one of the last sizeable remnants of wetland remaining in the Christchurch area.



Birds Seen

By John Skilton, Ranger

There has been another sighting in late March of the Marsh Crake or Koitareke (Porzana pusilla), a member of the rail family. It was seen in a different part of the park to the first observations in September and October last year. This new sighting has caused lot of excitement as it is a possible indication that one or more Koitareke may be resident in the park.

An Australasian Bittern or Mataku was seen recently and a Glossy Ibis has returned, the eighth year an Ibis has been observed here. An Ibis has also been seen at Bexley Wetland, although this is possibly the same bird. A single Cape Barren Goose has also been a regular recently, usually preferring the company of the winter flocks of Canada Geese.

We ask that visitors to the wetland respect the fact that this is the home of many native and migrant wetland birds including pukeko, scaup, paradise ducks, pied stilts and other native bird species. Please confine your bird-watching pursuits to the marked pathways in the wetland.

Marsh Crake

Spider Orchid

The Manuka area of the wetland is the most botanically rich area of the park. It has a number of native species, some rare in Christchurch. These include; Drosera binata, Celmisia graminifolia and Corybas iredescens, which are confined to a very small area. Emboldened by their experience, the Manuka Group of Eleanor, Daphne and Denise has adopted a more intensive approach to managing the recovery of these species. The unexpectedly spectacular flowering display of the Spider Orchid this spring is a testament to their commitment.

Spider Orchid

Monthly Work Morning

By Joe Greenaway

A good deal of our work mornings involve planting new areas. These can range from very dry (sand dunes) to very wet (swampy peat) and it's important that the actual planting procedure is carried out for the survival and future well being of the area.

Even though some plants such as kahikatea appear to like it, very few plants can tolerate water-logged areas. They do better in a slightly drained or higher ground so we plant round edges of higher ground to give the root system a choice. A good part of the Mairehau sand dune area has done well along the lower slopes as plants get enough moisture in summer without being too wet in the winter. Although some plants will adapt, it is important they do well when first planted. This means our selection of species is very carefully checked so plants are compatible with the area picked for them.

It is not surprising, however, that even if we think we have done everything correctly, nature can show us up. Nevertheless, it is always pleasing to find natural regeneration in some of our earlier plantings starting to show.

Next newsletter I will take you through the actual introduction of plants into the ground and show there have been some disasters when plants are not correctly positioned in the ground.

Types of wetland at Travis

By Colin Meurk and Trevor Partridge, 2 May 2007.

Travis Wetland is indeed a wetland. When the Trust was campaigning to have the area protected during the 1990s there were many letter writers, developers and even scientists brought in to testify, who claimed that it wasn't a wetland! History and common sense have since revealed the complex wetland patterns that exist in the 120 ha of this nature park. Some of these were obscured by over a century of attempts to drain the land for dairying, but since these drains have been closed off or had weirs put in to control the outfalls, the water table has risen again and even the driest areas are moist most of the time. Of course much of the Travis Wetland is ephemeral – drying out in the summer but inundated during the winter (see aerial photo from c. 2005). There are also small areas of sand dune land (largely built on now) around the fringes of Travis that define and contain the basin swamp of Travis Wetland proper. These habitats which are always dry, add to the overall diversity of the site.

Winter wetland , view of Travis Wetland from above QE11, 9 August 2006, (Photo: Phil Teague)

Wetlands are terrestrial habitats or environments that have three distinguishing features: 1) a high water table for at least part of the year, 2) soils which are organic (peat) or gleyed mineral (saturated and with grey de-oxygenated iron compounds), and 3) distinctively wetland plants (rushes, sedges, reeds, restiads). Years ago, Colin Burrows proposed the generic term of 'mire' (widely used in Europe) to refer to all wetlands in New Zealand.

Like everything else, wetlands have been classified and reclassified. It reminds me that "there are two kinds of people - those that divide things into two groups, and those that don't"! However, all language is classification and we can't really do without categorising and grouping like objects.

And so it is with wetlands. Peter Johnson (who wrote the wonderfully illustrated Wetland Plants in New Zealand) and Philippe Gerbeaux have recently produced a book entitled Wetland types of New Zealand. They first divide wetlands into nine broad Hydrosystems. Of these, three or four apply directly to Travis wetland – Estuarine (once upon a time), Riverine (could apply to some of the streams, moats and drains), Lacustrine (lakes and ponds), and Palustrine (true freshwater wetlands or mires).

We can now try to fit Travis Wetland into this universe of wetlands. As we said, Estuarine only applies to Travis in the past tense - to a period when mixing of salt and freshwater was occurring at the site. This changed about a millennium ago and, since that time, up to 2m of organic peat has accumulated in parts of the wetland. The term Lacustrine may be applied to the large artificial central lake (1-2 m deep) and other ephemeral ponding areas. The water is turbid because, being on a coastal plain, it is sluggish and carries a great deal of sediment and organic matter in suspension and high levels of nutrients (partly from the abundant bird life). This is not a place for crystal clear water. The canals and drains may be regarded as Riverine and Angela Stream is now, with nearly 10-year-old riparian planting, reminiscent of primordial Christchurch.

The term that most describes Travis Wetland is Palustrine. There are several classes of wetland that fall under this umbrella and for Travis, these include bog, fen, swamp, marsh and seepage. Bogs are acid peaty wetlands which derive their water solely from rainfall and there is essentially no water flow. Bogs usually have the moss Sphagnum and it may have once occurred at Travis, but would have succumbed to farming and the changed water regime. Fens are also peaty and relatively infertile, but they are mainly fed by ground water with slow movement through the system. Some of the peat on the western side where the manuka, baumea, sundews and other smaller plants grow, shows many of the characteristics of fens.

In contrast, swamps have relatively strong water flows with frequent ponding on the surface and are one of the dominant wetland type at Travis. The substrate is a mixture of peat and mineral soil and fertility is moderately high. The vegetation is generally dominated by large tussocks of NZ flax, raupo and sedges often with invading cabbage trees.

Marshes have fully mineral substrates and fluctuating water tables (with gleyed to mottled, non-acid fertile soils). At Travis these are largely grazing marshes dominated by grassy turfs grazed by cattle and waterfowl and with scattered patches of rushes. In fully mature undisturbed conditions many of these marshes would support tall floodplain forests dominated by kakikatea, matai and pokaka. We are in the process of creating such habitats.

Finally seepages and flushes are similar to swamps and marshes, but have strongly aerated, nutrient-rich water flowing through them. They can have a mix of peat and mineral soil. Some of the springs at the top of Travis Stream may approach this type although true seepages are typically found on sloping ground. Seepages are generally dominated by tussock vegetation as with swamps.

There are many other descriptive terms that apply to wetlands according to their landform, structural vegetation class and the dominant species. For example carr is a European concept of swamp forest generally dominated by alders and shrubby willows. In New Zealand the nearest we come to this with native species would be cabbage tree groves with sometimes manuka and swamp maire (in the north). Taller growing kahikatea forest does not quite fit the carr label. All classifications are in the end arbitrary so don't get upset if you can put everything into a neat box. It is probably a mixture of several different wetland types. Wetlands, like vegetation in general, are infinitely varying.