

Special Edition
Celebrating TOSSI's
Tenth Year



Big Plant
June 2 and 3
Help Wanted!

TAWHARANUI OPEN SANCTUARY SOCIETY INC.
Newsletter No. 41. June 2012



Martin Sanders

Ninety tieke are settling into Tawharanui



Native kereru flourish at Tawharanui

Tawharanui Open Sanctuary is a joint project with Auckland Council.



Chairman's Report Anniversary Newsletter 2002 to 2012

The present newsletter has been designed to mark TOSSI's 10th anniversary, a productive decade with much achieved in partnership with Auckland Regional Council and now Auckland Council. The appropriate measure of success for any conservation project is controversial and some ecologists would argue that only a change in the status of a threatened species should be used as an index. However this ignores the benefits of reversing local declines in species status. There are also intangible benefits such as accessibility to an area where New Zealand threatened endemic species can be seen and heard. Anyone who has tramped through our predominantly silent forests quickly appreciates the bird song that is present throughout the day at Tawharanui Open Sanctuary. The rich understorey of the Ecology Track forest is also in marked contrast to that seen in forest where possum still browse. The ability of 160 000 annual visitors to enjoy the sanctuary and its bird song is a sufficient measure of success.



The major component in the success of TOS has been cooperation, not just between TOSSI members but also with our partner, Auckland Council, other volunteer groups such as Conservation Volunteers NZ and International Student Volunteers, sponsors and supporters. We owe thanks to the Auckland Regional Authority and subsequently, the Auckland Regional Council, for their foresight in purchasing Tawharanui and for their vision of establishing an open sanctuary.

Our 10th anniversary is an opportunity to acknowledge the efforts of the general membership, without whom little would have been achieved. Whether it is volunteering with one of the project groups, attending work or planting days, or supporting TOSSI with your continued membership, your input is most appreciated. I would also like to acknowledge the work of early committee members in establishing TOSSI including Sheila and Rhys Thompson, Hamish Alexander, Paul Williams, Les Cave, Helen Crosby, Alison Stanes, Sharon Kast and David Stone. These and other members have made it possible for TOSSI to look back on 10 productive years.

Steve Palmer Chairman



Open Sanctuary Coordinator Update

Tieke are exploring their new home and slowly venturing forth from their release site at Tokatu point (where most reside), with birds sighted along both coasts and into Ecology Bush. We welcome all sighting reports and any leg band info. It's still early days and we are far from calling this new arrival established, however some birds are starting to appear regularly at the same spot with the same company, indicating they are settling in. While awaiting tieke arrival I was reflecting with a few TOSSI members on the pace of change at Tawharanui. While we work in ecological time frames, it is surprising how rapidly change can occur. Around 25 years ago livestock were excluded from the Tokatu point area. The plant community responded immediately with new species establishing among the grazed scrubland. Over 3000 possums were removed from this area and other key pest removed in 2004 with the open sanctuary development. Now seven years after that we have a wonderful flora with prostrate manuka and the rare Kirks tree daisy and fern ally *Psilotum nudum*. Grey faced petrels have returned and other seabirds investigate our sound systems. Bellbirds abound, forest and green geckos have recovered and shore skinks occupy the foreshore. Reintroduced robins, whiteheads, kakariki and now tieke can be seen and heard. Wow! What might it be like in another 10 or 50 years? Best you visit and keep track. Matt Maitland I can be contacted at matt.maitland@aucklandcouncil.govt.nz or 09 426 1200

“The future is not a place we are going to, but a place we are creating.” Anon.

Help Wanted

Come and plant trees at our Big Plant weekend,

Sat. 2 and Sun 3 June Queens Birthday Weekend 9.15 am.

10th anniversary celebration for TOSSI. BBQ and ice cream.

More plant days

Sun. 1 July 9.15 am. Auckland Council Planting Day. BBQ provided.

Sun. 5 August 9.15 am. Auckland Council Planting Day. BBQ provided.

Bring a drink, gloves, sturdy boots and raincoat.

Planting behind the Sanctuary Hut at Anchor Bay.

Volunteers to count kiwi calls

This year's kiwi call count season is 7-27 June. Kiwi call counts give us an index of the population health of our Tawharanui kiwi and contributes to the national survey of kiwi health.

Volunteers are sought to join us. What is involved? Volunteers stationed at six listening sites listen for the first two hours of darkness on each of four nights for kiwi calls (and other night noises). The four survey nights can be undertaken during the listening period on nights when weather conditions are suitable (e.g. no rain and not much wind). Volunteers can make themselves available for all four nights or just one. Full training is given, all you need is reasonable ears, enthusiasm and lots of warm clothes. Volunteers can listen alone or in pairs. if **you'd like to help or seek more info please contact Pat Williams: pat.williams@clear.net.nz Phone 09 425 9127**

Volunteers are required for grey-faced petrel monitoring see Page 12.

Volunteers to help with trap lines

Take a walk on the wild side! A pest free Tawharanui Open Sanctuary is critical to healthy ecosystems. Why not help out as a volunteer trapper? We have lines of varying terrain and time duration to match almost any fitness level and time commitment. Full training is given. Trappers travel off the beaten track and get to know their patch intimately and are rewarded with glimpses of dolphins at sea and wildlife in the forest as the seasons change. Contact jamesross@paradise.net.nz for further information.

Keeping the aliens at bay.

The pest free status of Tawharanui Open Sanctuary is the backbone that supports the recovery and reintroduction of native habitats and wildlife. Seven of ten target mammal pest species were eradicated in 2004 and with them the lethal threat they pose. Of the three pests that persisted, mice are widespread, rabbits are continuously managed and hedgehogs have been progressively reduced to near zero density. Seven years of pest management have given the security required to enable recovery as well as providing plenty of challenges and lessons along the way.

Yet the threat of pest incursion is ever present and eternal vigilance is key. A pest management buffer to reduce potential invaders is complemented by a continuous surveillance network with established pest incursion response protocols. We constantly strive to improve the efficacy of our defences with results informing review and refinement.



Fence integrity is critical to pest security and weekly inspections are made by volunteers. Coastal ends have been modified to better intercept potential invaders and later to better withstand storm events. A single event has compromised the fence when a 40m section was damaged by a 2011 slip and a prompt response saw the fence functional by day's end.

Technology is embraced and the bag of pest control tricks now includes detection dogs, tracking tunnels, surveillance cameras, bite tags, smart wildlife transmitters and lure rats alongside traditional traps, bait stations and firearms. All tools and techniques adopted must be integrated into Tawharanui Open Sanctuary alongside a working farm and popular public recreation space. Learnings are shared with other sanctuaries locally and globally.

Pest incursions have occurred. All species that were eradicated (except ferret) have at some stage been detected and removed from within the sanctuary including a population of ship rats establishing in 2008. Detection, containment and eradication of this population required significant unplanned additional resource. We were successful in eradicating this population and protecting the substantial investment made in the site.

A review of pest management with a focus on fence end pest incursions was undertaken in 2010. The expert panel concluded that the incidence of animal pest incursion was very low, that detection and removal of such incursions was timely and most importantly the biological consequences of such incursions were insignificant.

Pests don't always bear fur and teeth, some bear seeds and roots. Wind borne and bird dispersed seeds mean we are very much connected to the floral landscape. Key plant pests that threaten the future of our habitats are prioritised by site and threat.

Ridding the dunes of Apple of Sodom using volunteer led hand weeding was viewed as highly ambitious. A rolling front of gloved weeders bit off manageable chunks on successive workdays. By just the second year adult plants were much reduced in areas treated, meaning repeat visits allowed secondary targets such as lupin to be controlled. We now have a healthy dune system hosting many native and threatened species.

We are very grateful for the many keen eyes in the park as this brings vigilance for new arrivals. Visitors, volunteers and staff may report suspected pest sightings of plant and animal pests, all are treated seriously and in several cases both weeds and animals have been intercepted before they establish.

Matt Maitland, Open Sanctuary Coordinator

Why build a native plant nursery?

In early 2005, after Tawharanui Open Sanctuary's pest proof fence had been completed, Rhys Thompson (then TOSSI secretary) and I gave much thought to TOSSI's future direction. The fence project had demonstrated TOSSI's ability to raise funds, generate project awareness and create public enthusiasm and involvement but with the planned winding-down of the bait station inspection teams a large number of dedicated volunteers and much community support could potentially be lost.

After discussions with then ARC Northern Sector, Rhys and I were presented with a 2001 consultant-prepared "Wetland Restoration" booklet, a chunky proposal covering the Jones Bay lagoon wetland, the Maungatwhiri Valley wetland, the Possum Gully area wetland and the campground wetland.

The major thing that struck me about this multi-year proposed project was the budgeted cost for the supply and planting of native plants - \$1.219 million for over 200,000 plants, a huge sum of money for a small volunteer group like ours and even beyond the resources of the ARC. Thus the idea for an onsite, volunteer operated native plant nursery was born.

I'd never been associated with a plant nursery so there was much to learn, in fact much more than I realised. During 2005 a team of nursery volunteers was formed and we set about gleaning information from wherever we could, then designing facilities, costing buildings and equipment, sourcing funds, obtaining building and resources consents, clearing the site and of course learning about native plants. I recall receiving enthusiastic support in those early days from the late Andy Brockes, former TOSSI chairman Les Cave, Sue and Dave Chittenden who kindly offered their facilities at Omaha Flats to get us going and from many members of the Leigh Walking Group.



By mid 2006 we had sufficient grant monies in hand to make a start on the site works and by the end of 2006 the potting shed had been built and our own volunteers were putting the finishing touches to the shade house. Initial funding for construction of the potting shed (cost \$13,400), shade house (\$6,700) and stand-out area site works (\$3,900) came from WWF NZ \$8,000, Pub Charity \$7,500, Lion Foundation \$5,000, Matakana Hardware \$1,305, TOSSI \$1,295 and the AK Franks Charitable Trust \$900. In addition the Department of Conservation and TOSSI have funded the purchase of propagation equipment, sprinkler systems, stand-out area expansion, and our annual supplies of potting mix, poly bags and various other nursery operating expenses.

From the outset we were determined to produce very robust and healthy plants at a low cost and using best nursery practices. Whilst we lacked technical skills, at least initially, we successfully applied enthusiasm and common sense to achieve our goals. By late February 2012 we had produced our 100,000th plant.

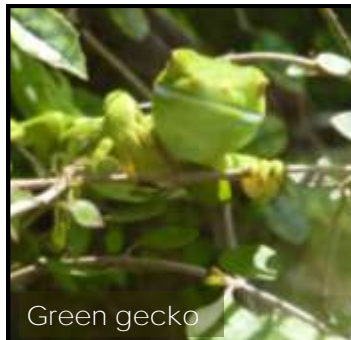
I hope it's been an interesting and rewarding adventure for the hundreds of volunteers who have been involved with the nursery since 2005. Unfortunately I don't have the space to name you all but to those of you who have helped out in many different ways please accept my sincere thanks. The nursery group has developed into an outstanding team and it is a pleasure to be involved with you.

Paul Williams Nursery Coordinator

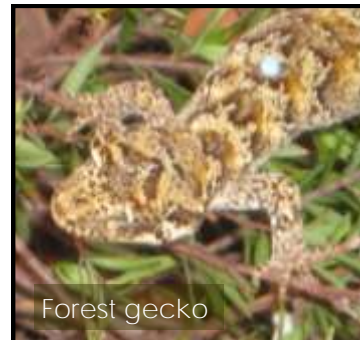
Species returned to Tawharanui



North Island brown kiwi



Green gecko



Forest gecko



Pateke/ brown teal



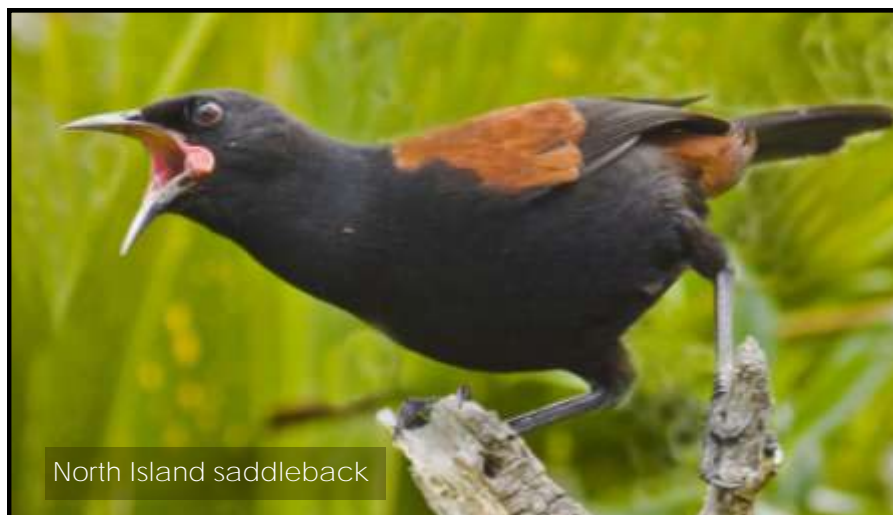
Red - crowned kakariki



Whitehead feeding a shining cuckoo chick



North island robin



North Island saddleback

Fauna translocations to and from Tawharanui and natural recolonisations –

Since 2004, when Tawharanui Open Sanctuary was created with the completion of the pest-proof fence and the pest eradication, brown kiwi, pateke, red-crowned kakariki, whiteheads, robins and saddlebacks have been reintroduced, and there have also been translocations to supplement populations of green and forest geckos. Grey-faced petrels, kaka and bellbirds have recolonised Tawharanui, while fauna already present on the park, including shore skinks, green and forest geckos, banded rails, spotless crakes, NZ dotterels, kereru and tui have increased significantly. Flourishing populations have enabled translocations of shore skinks and bellbirds to other locations.

Following is a summary of translocations to and from Tawharanui since 2004:

Green and forest geckos. In 2005 a small number of green and forest geckos were rescued from the Albany to Puhoi motorway route and relocated at Tawharanui. This transfer supplemented existing small populations of these lizards already on the park.

Brown kiwi. 45 birds released 2006-2008. Kiwi were sourced through Operation Nest Egg, with most coming via Auckland Zoo and Motuora Island kiwi creche. Monitoring of radio-tagged birds after release indicates that kiwi have settled in well and are breeding at Tawharanui. Two radio-tagged males followed closely between 2008 and 2011, between them fledged 13 chicks.

Pateke/brown teal. 124 birds released 2008-2010. These were obtained from the captive breeding programme coordinated by Operation Pateke. After release the radio-tagged birds were monitored by Jenny Rickett as part of her MSc research. Pateke are breeding well and are now forming flocking sites at the Lagoon and Dam. In 2011-12 the population in the sanctuary was estimated at c.38 pairs.

Red-crowned kakariki. 24 birds sourced from Little Barrier released in 2009 with a further 50 in 2010. The release was coordinated by Luis Ortiz-Cathedral as part of his PhD research project. Kakariki were inconspicuous to start with but are now becoming much more numerous and locally-bred young have been seen.

Whitehead. 45 birds from Tiritiri released in late March 2007. They were released in two batches at each end of the Ecology Bush and sound anchors were trialled. The sound anchoring was unsuccessful, but the birds thrived and have spread through forest, scrubland and plantings between Possum Gully and Takatu Point. Flocks of up to 20 may be seen in Ecology Bush.

North Island robin. 21 birds from Tiritiri released in mid March 2007 followed by 4 females from Puhoi in late July to early August 2007. Although the robins have survived and bred well (c.240 young produced since 2007), the breeding population has increased only very slowly from 9 pairs in 2007-08 to 12 pairs in 2011-12. We suspect high numbers of young are dispersing out of the park, but we have not yet found any outside the open sanctuary.

North Island saddleback. A total of 90 birds sourced from Lady Alice, Red Mercury and Mokoia Islands released in Takatu Point Bush in March-April 2012. This release was coordinated by Kevin Parker, who is researching saddleback song for his post-doc project. It is early days yet for this release, however, when this newsletter went to press, a few of the birds had already dispersed into the Ecology Bush.

Shore skink. Nearly 200 shore skinks have been transferred from Tawharanui to establish new populations at Tiritiri, Motuihe, Motuora and Crusoe Islands, with some of these moved via a captive population at Massey University at Albany.

Bellbird. In May 2010, 100 birds caught in Ecology Bush along with 100 from Tiritiri were translocated to Waiheke, Motuihe and Hamilton. The bellbird transfers appear to have largely failed, probably due to high dispersal, although a few survivors have supplemented existing small populations on Motuihe, Rangitoto and Motutapu Islands.

Species such as petrels, bellbirds and kaka are highly mobile, and creating safe habitat like we have done at Tawharanui and waiting for the birds to colonise naturally, or trialling acoustic lures as we are currently doing with the petrels, are probably better strategies for them rather than doing translocations. For less mobile species such as lizards, kiwi, whiteheads, robins and saddlebacks, translocation is usually the only option. With the exception of saddlebacks, which have only just been released, all of the bird translocations to Tawharanui have resulted in thriving breeding populations, and while it is still too early to tell how large these populations will be in future, early successes give us strong grounds for optimism.

Tim Lovegrove Senior Advisor Regional Fauna, Environmental Services.

1000s of trees planted throughout ten years at Tawharanui



From this in 2008 -



-to this in 2012

A big thank you to all those who help with planting



Beside West End Road beginning of Twin Hills Planting

From this 2009-



Hayters Wetland Planting 2006

Camp Wetland ARC Planting 2000

-to this 2012

10 Years Of TOSSI Planting

By the time TOSSI was established 10 years ago considerable revegetation had already occurred within the Tawharanui Regional Park. Initially TOSSI played a supportive role to the Auckland Regional Park staff but over time TOSSI's role has changed and now we are the lead partner in the planting programme. In addition the plantings themselves have changed with more emphasis on eco-sourcing and matching the plants used, to the terrain and aspect of the areas to be planted. These changes are to a large degree the result of the development of the TOSSI nursery which has not only made for a significant increase in plants available for planting but has also made it easier to have the appropriate plant species available.

Although planting days are the main public face of the revegetation programme they are only the final stage of considerable planning and work. Areas designated for revegetation are the result of consultation between TOSSI, park staff, farming management, heritage staff and ecologists. An area to be planted will almost certainly need altered or new fencing and this in turn needs to fit in with farming requirements. Heritage staff need to determine that no archeological areas will be interfered with during the planting. The ecology input is necessary in order to arrive at the most appropriate plant mix for a given area. The plant selection is arrived at by matching the area to be planted with a similar area of original vegetation. The plants used in the Mangatawhiri wetland were significantly different from those used in the Twin Hills area. Manuka, kanuka, cabbage tree and flax remain the basic colonising plants used but additional species such as mahoe, ngaio, karo, coprosma, whau, sedges, olearia, nikau, kowhai, puriri, pohutkawa, kahikatea, tawapau and taraire are used as appropriate.

Plant plans act as a guide but cannot be too rigid as the final plant mix is dependent on the seeds available and the vagaries of germination. Once seedlings are available the nursery volunteers have little trouble producing healthy, robust trees. Most areas to be planted have a generous covering of kikuyu making spraying with glyphosate necessary. Two sprayings are used, one usually in October and a repeat a month before planting. Where no spraying was required as in the Mangatawhiri wetland secondary weed invasion was much less evident. However kikuyu quickly suppresses small trees making spraying essential where it is present.

Plant transport to, and placement in the field is a major exercise especially in an area such as Twin Hills. Fortunately, over the past few years, we have had help from two additional volunteer groups, Conservation Volunteers NZ and International Student Volunteers. Both these groups consist of overseas students visiting New Zealand, combining volunteering and holidaying. With these two groups helping staff and nursery volunteers we hope to be able to continue to have well organised planting days as we have another 20 ha, of predominantly gullies, to be planted in the next 10 years. The rewards of revegetation can be seen after a surprisingly short time. I hope the before and after photos in this newsletter will encourage members to continue their support for planting days. Steve Palmer Chairman



Maurice Pucket

A Rangers view of change since the formation of TOSSI

Which of these situations does a Ranger prefer?

6000 plants a year planted versus 20,000 plants a year planted, dune weeds versus low dune weeds, pampas and woolly nightshade galore versus low numbers of these and other such nasties, introduced pests versus virtually no pests, low bird song versus deafening bird song, struggling to get tasks done versus an enthusiastic source of willing volunteers. Ten years ago I had 3 workmates, now with the partnership of the AC and TOSSI I have well over 50. TOSSI has helped transform Tawharanui.

For someone like myself, who is uneasy with change, it has been very encouraging to see that most of the people who started out with TOSSI around ten years ago are still here today. It is the sign of a successful society when it can retain its core membership for so long.

These days it is hard to imagine "the Park" without the efforts of TOSSI, the members of which are an integral part of the Tawharanui wheel. TOSSI has helped turn Tawharanui into many peoples special place, and have created such a successful sanctuary that it could not run without their continued help.

Maurice Pucket Resident Ranger

Planting and Wetland Restoration



2002 before the planting of the Bull Sidling

The clay bund near the lagoon 2002.



2004 and 2005 the Bull Sidling was planted. Photo 2012

The clay bund has been replaced with board walk allowing better tidal flow. May 2012

What did I expect 10 years ago when we started TOSSI?

What a hard question to answer because 10 years ago I never thought that far ahead! We thought the idea of bringing the park back to nearer its original state was an excellent one and were happy to be part of this endeavour but we never imagined that things would move along so quickly.

My first concern centred around how on earth we were going to raise the funds to build the fence. I thought that would be a 5 year project but it was all funded and finished in 18 months.

When Sheila and I took it on we thought we might be able to help in a small way to improve the park but we never envisaged the achievements that have subsequently happened.

I had got to know the whole park doing the bait site locations and came to love the beauty and diversity of the park but I never envisaged the amount of planting that has been done in the last 10 years.

Originally we had to get people interested in the whole idea of the Sanctuary which seemed to be a major hurdle, but once the fence was actually being built people could envisage how wonderful it would be to have more native trees and plants which would support more and more varied species of birds which 10 years ago were non-existent at Tawharanui. Rhys Thompson



Rhys Thompson

Bird News - Seabirds Returning to Tawharanui

Playback systems broadcasting petrel and shearwater calls provide a highly cost-effective alternative to translocations for restoring seabirds to mainland and offshore island sites. Three of these systems have been installed at Tawharanui. Cameras placed near the speakers have detected fluttering shearwater, diving petrel, Cook's petrel and, in the last month, dozens of grey-faced petrel coming to find out what all the excitement is about.

The Takatu Peninsula extends well out into the Hauraki Gulf and flocks of fluttering shearwater and diving petrels are commonly seen from headlands during breeding months. We knew they would be well within range of the speakers. Fluttering shearwaters are also present offshore locally during non-breeding (winter) periods.

Night surveys had shown that grey-faced petrels were present over and around Tokatu Point in good numbers during winter and spring and ground searches revealed some active burrows at Ngaio Bay. Attracting this species to the sound systems has been relatively easy as the accompanying photo shows. By contrast, attracting Cook's petrels was always going to be a challenge. At Tawharanui, Cook's petrels overfly the peninsula at night during summer months en route from the Tasman Sea to their colony at Little Barrier Island. In this case we were aiming to attract the birds from the land rather than from the sea. And we were successful!

Getting birds to land at Tawharanui is just the first step. Chris Gaskin is currently developing a Tawharanui Seabird Restoration Plan to outline strategies to encourage these species to nest and establish breeding colonies.

This winter we will be conducting night surveys at the broadcast sites and surrounding areas for birds attracted by the systems. In addition to the petrel work we will also be conducting a shoreline search for penguin breeding sites. If you are interested in being involved in either of these two surveys contact: James Ross 09 4226760
Chris Gaskin and James Ross



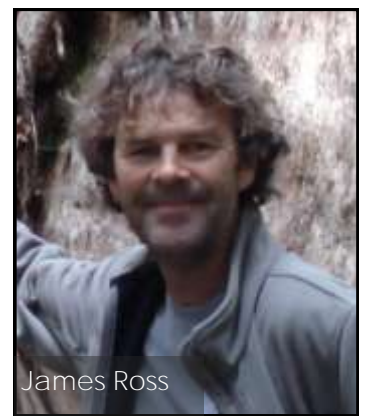
Chris Gaskin



Grey-faced petrel visit —



the sound system site



James Ross

Thirty five years on



Mat Vujcich

Tree planting commenced at Tawharanui soon after it was purchased in 1975. The Auckland Regional Authority Parks Department had a landscape crew based in Auckland who were responsible for planting trees for amenity and landscape purposes. The plantings largely occurred around car parks and toilet blocks with a beautification objective and no thought given to improving biodiversity. Pohutukawa were planted at Jones Bay around the lagoon and at Anchor Bay in the late 1970's early 1980's for shade and shelter

It was not until around 1985 that the concept of revegetation of steep and eroded areas started to be considered as a tool for park management at Tawharanui. In conjunction with this consideration was given to where new and replacement fence lines should go with the thought that areas close to streams and waterways should be fenced.

The introduction of back to basics camping in 1986 saw the first large scale plantings with an urgent need to provide shelter on the northern side of the campground. This area was planted by staff using the traditional tough coastal plants of karo, ngaio, komprosmas and flax along with a shelter of pines to give the natives some protection. The pines grew extremely well and the natives struggled until mulch was discovered and became readily available. The pines were removed as the natives established and further enrichment occurred around the campground. The dune system behind the current campground was regularly grazed by sheep and this was stopped by altering fences at Anchor Bay. The grassed area along the beach front and around the Sanctuary Hut was then mowed.

A major 10 year fencing programme began on the park from 1986. With the decision to fence waterways from livestock access an alternative source of water for livestock needed to be found. Ground water is very limited so a bore would not meet the livestock demands. A decision was made to dam the unnamed stream which flows out of Ecology bush for this purpose. Construction occurred in 1988 and a fully reticulated and reliable livestock supply resulted. The design of the spillway catered for some of the native fish which are good climbers.

In 1987 a decision was made to withdraw grazing from Takatu Point an area used as a wintering paddock for the breeding herd and leave it to revegetate naturally. At the time the area was covered in dense low tea tree with large grassed spaces and the spectacular areas on prostrate manuka. The decision to close it off permanently from grazing was to protect the fragile cliff areas, unusual vegetation community and also to prevent the occasional animal death resulting from falls over the cliff. Cattle and sheep had full access to the beaches and coast line so a programme to protect remnant bush on the south coast began and worked its way around to the north coast. This was completed by 1990.

The progression of fencing then moved to the gullies on the south and north coasts and created some controversy as large areas were withdrawn from livestock grazing and the kikuyu was left to grow. The rule of using the quad bike as a way to determine where a fence line could be established became the accepted method. If it was unsafe to drive a quad around a hillside then it was too steep to be grazed and the economics of farming parkland became marginal. In the early 1990s there was much discussion on how to revegetate such areas and what resources were available to carry this out. The traditional amenity and landscape approach with large plants was very resource hungry so the idea of using pioneering species such as manuka and smaller grades of plants became a favoured mechanism of planting large areas. This was called the "least impact" approach to revegetation as it allowed nature to take its course in re-establishing itself. In other words a kick start to the process of fostering natural processes. This approach has been refined to its current approach of matching species to the particular requirements of each site but still a predominance of manuka and kanuka.

Most of the early plantings were carried out by staff and school children. Areas such as the hillside behind the camp ground and the area to the right of the road flats as you approach the Anchor Bay car park are testament to their efforts. The first volunteer plantings occurred in the wetland behind the camp ground and have progressed from there concentrating on the visitor corridor as you go past the lagoon to the beach. An early volunteer planting was on the left up the hill past the old bridge that leads to the trig. Though planted intensely a very strong easterly gale and salt winds burnt most of the manuka badly and plant survival was poor. A lesson was learnt here about the vagaries and suitability of planting on the coast and also the value of eco sourcing which selects seed from plants growing in the area you wish to revegetate.

Cont. Next page.

The large scale of retired areas led to some experimentation on direct seeding and spraying and leaving to natural processes. Direct seeding was carried out in the wetland behind the campground but met with limited success due largely to weeds outcompeting native seedlings. More success was obtained with this approach by the lagoon but enrichment planting was still required. A large area on the south coast was sprayed out several times and the results were surprising as tree ferns have established in masse in places.

The key to successful establishment on large scale plantings has always been to get the kikuyu out and keep it out while the plants grow and the benefits of shading by manuka then come to the fore . At least two to three years seems to be the after planting maintenance period.

Fencing of sensitive areas identified 25 years ago is now almost complete. The fencing of Slip Paddock has recently been completed and now only one major catchment is left at the western end of the park. This does not mean "job completed" as every time a fence is replaced latest thoughts and ideas are applied to refine the risks and benefits of change. The revegetation programme has gone from strength to strength over the last 25 years and has reached new heights with the partnership established with TOSSI and the efforts of the TOSSI nursery volunteers. Mat Vujcich Principal Ranger Northern Parks

Wetland Restoration at Tawharanui

Of all of New Zealand flora habitats wetlands have been the most affected by man's activities, particularly farming. In Rodney district wetlands have been reduced to a small fraction of their original area.



Mangatwhiri wetland was closed off to farming.
Photo May 2008

Wetlands are increasingly recognised as playing an important role, not only in the local ecological system, but over a wider area through their central role in maintaining the health of waterways. The deterioration of the Hauraki Gulf is in part a result of loss of the Hauraki Plain wetlands giving an increase in nutrient and sediment run off into the gulf.

At Tawharanui we are fortunate that the Regional Council recognised the importance of wetlands so that a considerable area was set aside for wetland restoration. Hence we now have the campground wetland, Hayter's wetland, the lagoon wetland and Mangatawhiri wetland. TOSSI has played a role in all these restorations but has had a larger role in the Mangatawhiri wetland restoration. This area had long been drained with water diverted to a single stream. It then had years of grazing before a decision was made to restore approximately 4 ha to a wetland area. The first action was to fence out stock from the area and an attempt was made by ranger staff to kick start regeneration by direct sowing with manuka. *Cont. Next page*



Mangatwhiri has plantings, ponds and waterways suitable for wetland bird habitat May 2012

This was of limited success but has resulted in a population of older manuka. In 2007 Matt Maitland and Les Cave supervised the disruption of the stream running through Mangatawhiri. They, with the help of a digger, created random areas of running and standing water. Major plantings were then carried out by TOSSI in the winters of 2007 and 2008. These plantings quickly established and there has also been significant colonisation with additional plants particularly native sedges. The potential now exists for additional inter planting.

In 2011 Roger Williams and a team of volunteers built the boardwalks in the wetland creating the Thompson Loop as part of the Mangatawhiri track, which now connects with a track through Pete's bush. I believe the volunteer group enjoyed the construction work especially Ray Blackburn who regularly saw a resident Australasian bittern.

The restoration of the Mangatawhiri wetland is a major achievement for TOSSI. Ecologically it is potentially very valuable as it connects a ridge of kauri forest, through a raupo swamp to the lagoon and then the Hauraki Gulf. Such sequences are now rare. Already there are signs of water quality improvement and fresh water fish and birdlife should flourish as the area continues to mature.

Steve Palmer Chairperson

TOSSI Committee

Chair	Steve Palmer	09 422 6441
Vice Chair	James Ross	09 422 6760
Secretary	David Stone	09 528 5712
Treasurer	Ngairie Wallen	09 627 1526
Editor	Alison Stanes	09 524 0291
	Joe Crandle	09 425 8573
	Sue Crawshay	09 534 0414
	Steve Harrison	09 425 8500
	Sharon Kast	09 422 9990
	Patte Williams	09 425 9127

Correspondence Chair or Membership Secretary
P.O Box 112 Matakana 0948

Email secretary@tossi.org.nz
Website: www.TOSSI.org.nz

Thank you to our sponsors

Auckland Council	Dept. of Conservation
Rodney Council	ASB Community Trust
Banrock Station	BNZ Save the Kiwi
Dallowboss Design	Ducks Unlimited
The Lion Foundation	Pub Charities
Ransom wines	AK Franks Charitable Trust,
Angel solutions Ltd.	Becroft Foundation,
Endeavour Trust	Matakana ITM,
NuFarm	Perry Foundation,
Scottwood Trust	Southern Paprika,
Warkworth Printing	
Chris Patterson - Barrister	
Helensville Primary School	
Bird Life community Conservation Fund	
West Auckland Tramping Club	
NZ National Park and Community Trust Fund	
Ministry for the Environment, -	
Community Environment Fund.	

Application form for NEW MEMBERS Tawharanui Open Sanctuary

Name(s): _____

Address: _____

Phone No. _____

E-Mail _____

Occupation _____

How did you hear about TOSSI?

Please tick how you would like to help:

- | | |
|--|---|
| <input type="checkbox"/> Planting/workdays | <input type="checkbox"/> Bird Counts |
| <input type="checkbox"/> Fund raising | <input type="checkbox"/> Administration |
| <input type="checkbox"/> Monitoring Pests | <input type="checkbox"/> Nursery |
| <input type="checkbox"/> Predator fence monitoring | |
| <input type="checkbox"/> Environmental educational | |
| <input type="checkbox"/> Publicity/promotion | |
| <input type="checkbox"/> Art in the Woolshed | |
| <input type="checkbox"/> Other _____ | |

Membership fee:

\$20 single membership \$ _____

\$30 Family membership \$ _____

Additional contribution (optional) \$ _____

Donations over \$5 are tax deductible

Gift Membership:

Please send membership to

Name: _____

Address: _____

Amount of Gift membership(as above)\$ _____

Total amount enclosed \$ _____

Please make cheques payable to Tawharanui Open Sanctuary Society Inc. and return the completed form to:

TOSSI Membership Secretary
P.O.Box 112
Matakana 0948



A tui enjoys nectar from flax flowers in a planting at Anchor Bay —



and gets a dusting of orange pollen to transport to the next flowers.



2002

Tawharanui Open Sanctuary

STAGE 1
BUILD PREDATOR FENCE
(Similar to this fence sample)
Funds Achieved
\$525,000
Funds Required
\$600,000

STAGE 2
ERADICATE PESTS
 Ferrets
 Stoats
 Weasels
 Rats
 Mice
 Cats
 Possums
 Hedgehogs
 Rabbits

STAGE 3
RESTORE, REPLANT
Return Treasures
 Kiwi
 Black Petrel
 Brown Teal
 Robin
 Whitehead
 Bellbird
 Saddleback
 Giant Weta
 Tuatara

When Jo Ritchie, the project manager at the time, and I made up the list for these notice boards our focus was on building the pest proof fence. We had no idea what was going to be brought back to Tawharanui, so the notices were a list of possibilities. Kakariki was an addition we did not anticipate! To have achieved so many returns, and bird song, with in ten years is a great achievement for the Auckland Council and TOSSI. Who knows, maybe giant weta and tuatara might return in the next ten years! Alison Stanes



2012

Tawharanui Open Sanctuary

STAGE 1
BUILD PREDATOR FENCE
(Similar to this fence sample)
Funds Achieved
\$485,000
Funds Required
\$600,000

STAGE 2
ERADICATE PESTS
 Ferrets
 Stoats
 Weasels
 Rats
 Mice
 Cats
 Possums
 Hedgehogs
 Rabbits

STAGE 3
RESTORE, REPLANT
Return Treasures
 ✓ Kiwi
 ✓ Grey-faced petrel
 ✓ Brown Teal
 ✓ Robin
 ✓ Whitehead
 ✓ Bellbird
 ✓ Saddleback 2012
 ✓ Giant Weta
 ✓ Kakariki