

Tongariro

the Annual

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Te Papa Atawhai

TONGARIRO

the Annual



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Cover photo: What a way to get to work! Theo Wylie is flown into his work position in Kaimanawa Forest Park by helicopter to carry out *Pinus contorta* control work. Photo: Ian McNickle

Above: Te Papa Mire wetland, Rangitaiki Conservation Area. Photo Kim Alexander-Turia

Back cover: Participants in the conservancy's summer programme of activities make their way across the Waipakihi River, one of more than 50 experienced during the walk. Photo: Kim Alexander-Turia

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Above: One of many river crossings of the Waipakihi River during one of the conservancy's summer programme trips.

Photo: Kim Alexander - Turia

Below Left: The dramatic lava dyke in the wall of Red Crater. Photo: Jimmy Johnson

Photo: Jimmy Johnson

Below right: *Gastrodia* orchid in flower on the Waihohonu Valley. Photo: Jimmy Johnson

Background: Toetoe in flower with Ngauruhoe in the background. Photo: Jimmy Johnson

For more information on all matters relating to conservation check out the Department of Conservation's website www.doc.govt.nz





Paul Green
Conservator

From the Conservator

The world economy went into melt down in 2008 and this has flowed onto New Zealand with our international tourism and exports under pressure with less revenue. Government expenditure is under review and conservation has not escaped with a \$54 million cut to our baseline allocation over the next four years (\$13.5 million per year). All of us must closely look at our programmes and projects to ensure they are top priority and that they are being achieved in the most effective and efficient way. At the same time we need to recognise that conservation is a business and we need to look at opportunities to assist commercial entities achieve conservation and look for achieving our own commercial opportunities. A lot of our organisational strategic thinking needs to be applied to these challenges and everyone can contribute. The department will be looking for ideas from everyone; regardless of their role.

The Taupo Sports Fishery has had a very difficult 12 months. A number of complex biological factors led to fewer and less well conditioned fish last year and this mixed with the countries economic downturn led to a decline in licence sales. Fishery managers can only spend the income that is received in any season and when the downturn trend became obvious (about August last year) adjustments needed to be made to work programmes and further adjustments were needed to be made during the season. Fortunately we did have staff vacancies at the time which assisted but the impact of these adjustments was that some monitoring programmes, issues of Target Taupo and maintenance of facilities had to be reduced. The health of the fishery has improved and it is hoped this will be reflected with an increase of licence sales.

During the year we spent a lot of time reviewing our conservancy strategic directions. Strategic directions are important to us because they spell out work that is prioritised and make it clear what will happen at a specific site. They guide our business planning. To complete the strategic directions requires both strategic and technical thinking as well as operational input. There's a great deal of discussion along the way but we can then be clear as to our work priorities. These priorities will always change as a result of new knowledge, funding availability and Government priorities.

Our who population on the Whakapapa, Mangatepopo and Whanganui rivers continues to thrive as stoat trap lines are managing the impact of stoats. Who are starting to disperse. A community group has become active on the Tongariro River and a stoat and rat trapping line is now in place. It has been a difficult season for our kiwi team working in Tongariro Forest. It is the third year following a 1080 operation. The programme benefitted kiwi for two seasons only. This was entirely in line with expectations. It has been very difficult for staff monitoring kiwi chicks knowing that the vast majority will be predated. This monitoring clearly shows the significant benefit of 1080 in protecting kiwi and other endangered species. Next season we will return to our Operation Nest Egg strategy which removes eggs and hatches them at Rainbow Springs



Above: An on-site inspection of the new Waihohonu Hut site by Terry Slee, Dave Lumley, Jimmy Johnson and Paul Green.

Photo: Kim Alexander-Turia

Below: Erena and Barbara Browne and Paul Green at the Hapuawhenua Viaduct restoration opening.
Photo: Rosie Browne

before returning them to the wild at an age and weight where they are more resilient to dealing with predators.

The Government has prioritised tourism as an economic driver. The restoration of the historic Hapuawhenua Viaduct and opening of stage 1 of the Ohakune Old Coach Road will be a significant contribution in the central North Island. These new activities do attract significant numbers to the outdoors as illustrated by the completion of the Bike Taupo bike track between Whakaipo Bay and Kinloch. This work was done with the assistance of Tongariro

Natural History Society who contributed seed money, enthusiasm and work parties and the Ohakune 2000 group who ensured community support and input. Our visitor asset staff showed their great skill by undertaking the viaduct restoration work rather than contracting it out. This was a very time consuming job but they achieved completion on time for a most successful opening that included the running of a steam train between Ohakune and Horopito. It is hoped to commence work on stage 2 of the project completing the Old Coach Road restoration through to Horopito this financial year. Finance is still to be confirmed. Good progress has been made on the Ketetahi track upgrade by both contractors and staff. Two new tracks have been completed in the Kaimanawa back country but visitor use and tourism use clearly show that front country visitor experiences are under the highest demand and that the central North Island is on the main tourist route. These types of areas are where the department will need to focus its work in the coming years.

In association with Geological Nuclear Sciences (GNS) and Ruapehu Alpine Lifts (RAL) we have been upgrading the Eruption Detection System (EDS). The former system had reached the end of its life and knowledge and technology has changed. Stage 1 of the upgrade will be in place for the 2009 ski season and stage 2 due for completion the following year will give greater redundancy to the system. When stage 2 is installed there will be no longer need for equipment at Dome Shelter. It will be sited at Glacier Knob. This will enable mains power and far easier servicing of the equipment. The shelter will be removed. The main challenge with EDS system will continue to be educating the public on what to do should they hear a siren asking them 'to move to higher ground'?

Thanks to staff, volunteers and all the partners we work with in so many different ways for their efforts.



The Australian fires and DOC

A team of staff from the local Department of Conservation offices was deployed last summer to fire ravaged Victoria, in an effort to help fight the huge fires which swept through the state.

Five staff from the Tongariro Taupo Conservancy were part of a big kiwi contingent showing their ANZAC spirit.

These photos are a collage of local crews in action.

Photos by Dean Corrigan
and Chris Barrett



South to Enderby



Right: Pup counting on Enderby Island. Photo: Rob Hood

Below: Maps showing Auckland Islands in relation to New Zealand and detail map of the islands.

When friends and colleagues ask Robert Hood ‘how did your trip go?’ he replies ‘I loved it, it’s such an awesome place’ but ‘I have to concede, what we learnt I found really disheartening’.

Rob is referring to his latest trip in January and February to the remote sub-antarctic Auckland Islands with the New Zealand sea lion research team (having been once before in 2005). The Auckland Islands (62 560 ha) are approximately 500km south of Bluff, are a World Heritage Site (since 1998) and are home to many unique threatened flora and fauna species.

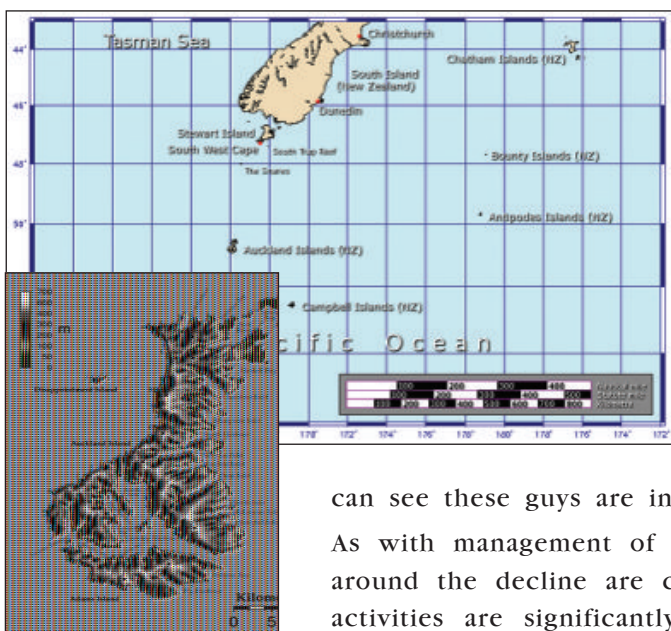
The team of six were based on Enderby Island to undertake research and monitoring of the NZ sea lion which is classified as ‘threatened’ by NZ and the IUCN. They studied population parameters (including trends,

size, pup mortality...), foraging behaviour, and also investigates the direct and indirect affects of fisheries interaction on the sea lions. Whilst there, they undertook work with other species including Albatross and Yellow-Eyed penguin.

What Rob found disheartening was the results of their monitoring which clearly show a continuing decline in sea lion numbers. ‘The numbers of pups being born has halved in only the last 10 years! When I was last there in 2005, there was 2148 pups born, this trip, only 4 years later, it was only 1501! Anyone

can see these guys are in serious trouble!’

As with management of any threatened species the causes and issues around the decline are complex, research is clearly showing fisheries activities are significantly contributing to the decline. This is either



directly as 'by catch' (when sea lions are caught and killed in the trawl nets. Over 1200 deaths, mostly adult females, have been reported in the last 15 years) or indirectly through competition for food resource (research showing females have restricted foraging areas, poor quality prey/food...).

'It wasn't all bad though, there were some wins!' Rob reports. In addition to the ongoing research projects, for the first time ever, the team captured and handled several large 'boys'. The biggest of the males weighed 330kg

(they can grow to 450kg). Once anaesthetised, weights and measurements were recorded and samples (blood etc) and swabs taken. Before release the team attached 'Splash Tags' which will provide information (via satellite) on locations, and the depths and times of dives. Rob believes 'it was a considerable achievement to successfully and more importantly safely (for both the team and the sea lion), capture and handle the large males. Its testament to the skill, experience, and teamwork of the team, and what we've learnt will greatly assist future management'



Right: The pink thing is not the latest piercing!

Darts are used to anaesthetise the sea lions before handling them.

Below left: Rob gets up close and personal doing population counts.

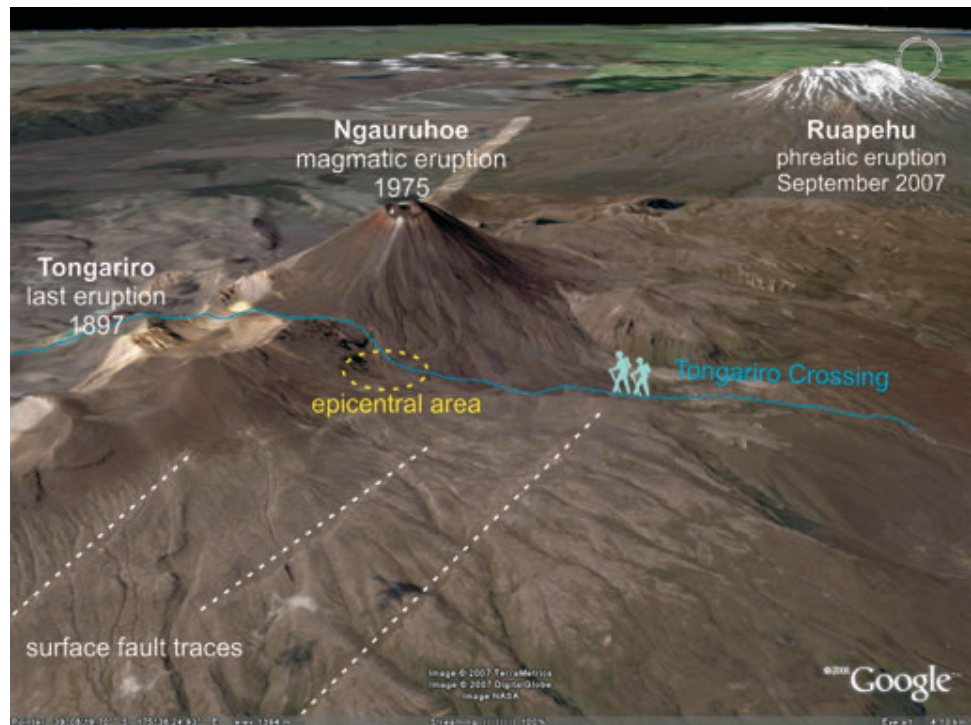
Below right: Whew...Let me guess, fish for breakfast?
Photos: Rob Hood

Rob is also grateful for the support of his team mates, colleagues, and his family and recognises he couldn't have gone without it.

'I'm so lucky to have been part of such a passionate, dedicated team, working in such a neat place, with such special animals. We have to do a lot better at helping to protect them'.



Volcano Watch 2008-2009



Right: Graphic ex Google Maps of the three volcanoes and epicentral area. [Graphic modified by Steve Sherburn, GNS, for Central Plateau Volcanic Group.]

The volcanoes have been quiet over the last year and most of our work has been in offices! Ruapehu's Crater Lake has retained emerald green-blue colours for longer than usual due, it is thought, to relatively high concentrations of sulphur minerals. Some bursts of upwelling have brought grey sediments to the surface (see photo) but the cumulative effects of such convection have not been enough to return the lake to its more usual grey. Following the anomalously long period of warm lake temperatures last year, the more normal temperature fluctuations resumed, with the lake cooling to below 16°C (extrapolated to around 14°C) in mid August then warming to 36°C in January, and on 27 May it was 18°C. Meanwhile Ngauruhoe's earthquake sequence is continuing, with a third increase in numbers detected early in 2009. Some characteristics have varied and GNS have made a further deployment of seismometers to assess these changes and their possible cause. The epicentral area remains the same - near Soda Springs at the head of the Mangatepopo Valley.

Upgrade of the Eruption Detection System

Ruapehu is a very active volcano with hazardous eruptions every 5-10 years. Generally neither the extent of the hazard nor the timing of eruptions are predictable with current understanding. There were no precursory warning signs before about half of the eruptions which produced lahars on Ruapehu since 1945. Such unpredicted eruptions, termed "blue sky" eruptions, led to three of the four occasions in which lahars have entered Whakapapa Ski Area. The risk to people is largest in lahar paths in Whakapapa Ski Area (frequency about 4-6% per year), and relatively much lower at Turoa (frequency about 2% per year), but



Right: Upwelling in Crater Lake, 3 April 2009.
Photo: Sarah Thompson

anyone within about 2 km of the centre of the crater or in the floor of the Whangaehu Valley may be at risk during eruptions (frequency >15 to >20% per year). This risk is managed, mostly under the Tongariro National Park Management Plan and response plans by:

- constraining the location and design of ski area and other infrastructure
- the operation of, and staff and public response to, automated lahar alarm systems
- volcano monitoring and research
- management response to the findings from monitoring and research
- increasing public awareness.

An automated warning system has operated at Whakapapa Ski Area since the 1980s. The first system was upgraded following the 1995-1996 eruptions to become the Eruption Detection System (EDS) which has had various improvements added gradually since then.



Right: Trevor Hardisty and Shayne Mail beside the new EDS hub at Knoll Ridge, 10 June 2009.
Photo: Harry Keys

The EDS has a major role in protecting human life on the Whakapapa Ski Area during blue sky eruptions especially those in the snow season. It must successfully detect eruptions without too many false alarms and it must rapidly send warnings to people including staff from Ruapehu Alpine Lifts and DOC. These are significant challenges, and then people must get themselves out of the way!

We are currently making a further upgrade of the EDS to solve significant problems with the current EDS especially those identified over the last two years. The EDS did not detect the 2007 eruption. Other problems emerged during the 2008 snow season, partly as a result of experience gained between 1997 and 2007 managing risks from the tephra dam at Crater Lake and in particular the Eastern Ruapehu Lahar Alarm Warning System. Technical solutions to the most important of these - failure to detect eruptions producing lahars, failure to broadcast or hear the warning siren and message, and unacceptably long delays in data transmission to the EDS computer - have been found and have been or will be implemented before the 2009 snow season. These solutions will also address some other problems found. Further work will be required before May 2010 to bring EDS to a state that, given current knowledge, will be fully capable of alerting skiers, snowboarders and staff during eruptions that send lahars through Whakapapa Ski Area.

The EDS must have sufficient redundancy in sites so that failure of one or more of them to operate or detect an event does not lead to detection or warning failure. Sites must be robust so they can operate reliably throughout the year particularly in winter without regular maintenance and during eruptions. The Dome building and its equipment proved unreliable in eruptions in 1995, 1996 and 2007 and will be removed, but the form and location of its replacement have not yet been confirmed. The whole system must operate cost-effectively including suitable monitoring of the system via internet, direct testing, and response to faults. The aim is to ensure the EDS is consistent with modern public warning systems and practical cost-effective expectations in terms of (a) detection reliability, and (b) availability, performance, service-ability and compliance with standards of critical components of the system.

Improving the reliability of the Eruption Detection System to deliver warnings to staff and the public is considered to provide the largest scope at present for reducing residual risks to people on Ruapehu ski areas. Lahars are the greatest volcanic hazard on the mountain and can travel rapidly to where skiers and snow boarders are. The EDS must deliver its warning well within about 90 seconds which is how long the fastest recorded lahar took to reach the Far West skiing area (September 1995). The EDS specification is for sensor data to arrive at the base station, be analysed and the warning transmitted via the speakers in about 30 seconds. The achievement of this specification was confirmed during 2008 during various testing exercises. The warnings need to be broadcast for sufficient duration (at least 10-30 seconds) for people to hear the message and evacuate from the lahar paths (30-50 seconds for 80-100 % evacuation according to recent measurements). This amounts to a total elapsed time of 70-110 seconds (or say 90 ± 20 seconds) from



Right: Hamish Johnson
at Far West lahar path, 27
September 2007.
Photo: Karen Williams

an eruption to near-complete evacuation. Therefore the EDS is capable of doing its part if it works reliably to detect an eruption and issue timely, audible warnings.

Extending an EDS-based warning to Turoa has been discussed for some years. The concern is based on the understanding that large or very large blue sky eruptions may lead to lahars through the ski area. While this did not happen in the only “large” event “witnessed” to date (1975), the tephra jets or pyroclastic surge from this blue sky eruption did overtop the high crater rim either side of the summit above Turoa in at least two places: a significant lahar descended the Wahianoa valley and incipient or small lahars started descending towards the Turoa ski area. An EDS warning tone/audio message will be installed before the 2010 season to provide a primary warning to RAL staff who will then use public address systems to advise or alert the public if necessary.

A few ejected rocks may reach the upper parts of the ski areas 20-30 seconds after large explosions. Risks to individuals are very low at this distance and some risk can be mitigated by upper mountain closure during periods with elevated Alert Levels. The very short time interval makes it impractical for a warning system like EDS to reduce residual risks from such events, either on the ski areas or in the summit area above them.

Increasing public awareness

Public awareness of lahars and how to respond to them has been a concern since before the first automated warning system was installed at Whakapapa. Systematic research to assess and improve staff and public response to warnings has been underway since 2000 led by GNS Science. We reported some of this last year, prior to Nicki (Shorty) Hughes presentation at a volcano conference in Iceland, supported by DOC, Earthquake Commission and Tongariro Natural History Society. Shorty has now left us after helping bring volcano risk management at

Whakapapa to a new level, and her replacement Blake McDavitt will take up the challenge.

We have recently worked with GNS Science and RAL to produce a set of simple posters for towers on the Express Quad chair, a poster for the Summit Hazard Zone and a new twelve minute long DVD. This was produced by Flying Saucer Films for several planned audiences and was premiered in May to a good turnout of mountain staff and locals. Further research is planned to assess the effect of these new tools in reducing the number of people who remain in harms way after the EDS alarms (see last years Volcano Watch article), and to identify new ways of reducing this number. Ultimately however skiers and boarders are responsible for getting themselves out of the way of lahars.

Relative eruption size and likely lahar paths on Ruapehu

A quantitative assessment of lahar frequency in known and presumed paths will help guide the level of risk management needed on the mountain. Variables include eruption size, the amount of lake water expelled, the range of the tephra jets produced and their direction as well as bulking effects of snow. However there is a reasonable record on which to base the assessment (Table 1).

Loss of glacier ice in central crater of Ruapehu has reduced the probability of lahars travelling down the Whakapapanui. In 1969 and 1975 eruption lahars travelled down the Whakapapanui lahar path, and would have done so in both the 1995 and 2007 eruptions but for a ponding effect in the crater caused by the loss of ice. GNS scientists measured the minimum volume of ponding as about 52,000m³ in November 2008, and the maximum volume as 134,000m³ in April 2009. The current minimum volume of the ponding appears similar to almost the entire volume of water ejected in small directed eruptions and possibly up to or more than half the volume of that proportion of medium volume eruptions that travel towards the Whakapapanui. Therefore the annual risk of lahars travelling down the Gut, Turtle, Waterfalls and Staircase runs is probably just over half of the risk at Far West which has been around 6% per year for the period 1895-2008.

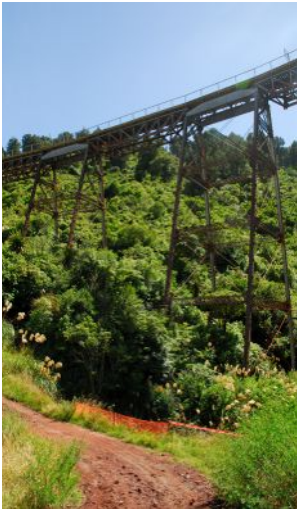
Acknowledgments

Reviews by Steve Sherburn and colleagues at GNS Science, and by DOC and James Mackenzie, have helped drive the EDS upgrade. In addition Gill Jolly, Ken Gledhill, Graham Leonard, Craig Miller, Vern Manville and others at GNS have been of major assistance during the year.

Table 1. Eruption size and lahar paths occupied on Ruapehu. This table is based on numerous publications including those by Gregg 1960, Healy et al 1978, Nairn et al 1979, Otway et al 1995, Latter , Allen 1902 in Cronin et al 1998, plus observations and conversations with colleagues from GNS. References are available on request. Known blue sky eruptions are indicated in **bold**

Relative size of eruption ¹	Percentage of lake water expelled ²	Number in last 64 years	Additional events since 1861	Lahar paths ³
Small ²	Up to 1 %	7 (-10+)	9-?	Whangaehu only
Small directed, medium	Up to 5 %	3 (1969 , 1995, 2007)	3? (1889, 1903, 1925)	As above, plus Whakapapaiti, Mangaturuturu, plus Whakapapanui (see text) in the larger events
Large	c.10- 25 %	1 (1975)	0	As above, plus Te Heu Heu Valley, Mangatoetoenui, Wahianoa, and potentially Restful Ridge drainages and some at Turoa
Very large	>25 %	0	1 (1895)	As above plus more Turoa drainages, Ohinepango, Wairere, and probably Makatote and Mangaehuehu

1. Relative size and approximate quantities based on amount of water “permanently” ejected from Crater Lake in the largest single explosion of an eruption episode, but also dependent on and complicated by the season and amount of bulking by entrainment of snow. Similar to the lahars of 1953 and March 2007, a huge lahar in 1861 was produced not by an eruption, but probably by a dam break or crater rim failure (or perhaps a glacier burst).
2. Small eruptions produce lahars only in the Whangaehu and in the smallest cases only by sending waves over the outlet. Only some of these smallest sized eruptions are documented and most such lahars are not recorded e.g. January 1979. The very small October 2006 eruption would have produced such a wave-generated lahar if the tephra dam not been there to block the waves.
3. Path assessment is based on the historical record and current topography, including that in the central and northern crater areas and Whakapapa and Mangaturuturu cols, subject to the direction of strong winds.



Historic Hapuawhenua viaduct opening

You could be forgiven for thinking you had stepped back in time or wandered onto a movie set if you were at Ohakune on 14 February 2009 for the opening of the restored historic Hapuawhenua Viaduct, culmination of a joint project between the Department of Conservation and Tongariro Natural History Society (TNHS). The restoration, which cost close to \$1 million of community raised and departmental funding, is to be part of the Old Coach Road, at present a 3.5km walk into the viaduct from Marshall Road near Ohakune. A fuller account can be found on www.tongariro.org.nz.



All photos by Shirley Barton unless otherwise indicated. **Top left:** The Hapuawhenua Viaduct. **First row:** Glen Hazelton, DOC and Sarah Gibb, TNHS (Paul Mahoney); Dignitaries lead the walk over viaduct after its opening by DOC's Regional Manager, Barbara Browne. **Second row:** Part of the 450 who walked over the viaduct. (Dave Wakelin); All dressed up and the train is late! (Rose Brown); Family ready to board special excursion train. **Third row:** Sarah Gibb, TNHS, Harry Keys, DOC, and Warwick Silvester (Lucy Roberts). The steam train that ferried passengers. **Bottom:** Picnic in the park by the viaduct.



John Webb
Programme Manager
Community Relations,
Taupo Fishery

Taupo Fishery Area highlights

It has been a very busy year for the Taupo Fishery team, with a lot happening in all facets of the fishery. After what most would agree was a challenging year last year, with fish size and numbers noticeably down on previous seasons, the fishery is showing very positive signs of rejuvenation. There has also been a very significant building project undertaken at Tongariro National Trout Centre (TNTC). The department has an ongoing commitment to promote quality visitor experiences in the region, and as one of Turangi's key visitor sites the works undertaken at the centre this year are very significant.

The most complex has been the new sewage reticulation scheme which will improve all on site sanitary facilities by linking the centre to the Turangi town sewerage system. Involving the installation of a gravity pipe network, pumps and storage facilities on site as well as a new water main between TNTC and Turangi, the centre has been prepared for an expected surge in visitor numbers over the following years.

The scheme removes the need for costly, high maintenance septic tanks with their associated environmental risks and paves the way for a number of other developments planned for the site over the next few years. The first of these is the extension to the Riverwalk visitor centre building run by the TNTC Society and the installation of a freshwater aquarium. There is also a proposal for a rearing facility for the Blue Duck or whio to be constructed on site at some future point.

A new entrance pathway to the site is presently under construction. The new pathway will be a dramatically more scenic entry to the site and improve access for disabled people. It will also markedly improve visitor traffic flow around the site, and in doing so provide for a much more



Right: The new walkway opens up a beautiful part of the centre. Photo: DOC
Background: Angler on lake. Photo: Julie Greaves



Right: Fish like this were a common sight over summer. Photo: DOC

enjoyable experience for the many thousands of people who pop in for a look every year.

Taupo For Tomorrow

Part of the trout centre experience can involve a visit to the Taupo for Tomorrow education program, which continues to be a real success story. Since its inception there has been a tremendous response to the program from schools right across the North Island, and continues into 2009. It provides students with a deep learning experience exploring issues around fresh water and sustainable resource use, using the fishery as a case study.

The ongoing support of Genesis Energy for the education programme has been tremendous and under a new agreement signed recently Genesis will be supporting the programme, as well as a number of other TNTC projects, for at least the next five years.

Research directions

The recent downturn in the fishery highlighted a need for greater understanding of the food chain in Lake Taupo, and the fishery is conducting some excellent new research with a real drive towards understanding the ecosystems in the lake. In particular aspects such as predator/prey interactions, the trophic chain and the physical and chemical processes with regard to currents and nutrient input are of primary interest.

In conjunction with the University of Washington and the Cawthron Institute in Nelson, a model for understanding the ability of trout to grow at different prey densities and water temperatures is currently being developed. Other related aspects of this project include using radioactive isotope analysis with the help of the NZ Geological and Nuclear Science Institute to understand the relationship between prey types and how trout shift prey selection at times of scarcity. This project will also assess the importance of resident river fish versus lake resident fish in the make-up of the spawning runs that support the fishery, and will greatly aid future management decisions.

There is also a large genetics PhD project underway in conjunction with the University of Montana and the University of Wellington and this was outlined in the last edition of "The Annual". The preliminary results of this exciting research indicate that rainbow trout from the Tongariro River system spawning early are genetically different than those spawning late in the season. The next step is now to analyse if angling in the river and in Lake Taupo is selecting for a particular type of fish.

Ultimately each of these projects will fill some of the knowledge gaps in the management tool bag, and provide the fishery team with the information needed for the future of the fishery.

River protection

One aspect of the work done by the Fishery area office is perhaps not widely acknowledged, and that is the role it plays in supporting river and waterway protection throughout the country. Fishery scientist Dr Michel Dedual has been heavily involved in providing feedback to the department at a national level on National Environmental Standards for methods used to recommend environmental and ecological flows in rivers subject to damming, water extraction, and hydro-electricity generation.

His expertise has also been of value to Eastern Fish and Game and Environment Bay of Plenty in the assessment of the impacts of the Ohau Channel wall construction on the trout fishery and smelt production, and is indicative of a growing range of inter-agency relationships which the fishery team is engaged in.

Didymo and compliance work

It has been another year of successfully keeping didymo out of the North Island. The awareness of the didymo threat has definitely achieved a higher profile in the minds of anglers thanks to the diligent advocacy of "Didymo Dave" Cade and fisheries staff. During the year a significant

change was the introduction of a country-wide restriction on the use of felt soled wading boots by anglers. Intended to reduce the risk of didymo transfer from hard to clean gear, this change has seen very strong compliance from fishermen in the district. It is no time to become complacent however and everyone needs to keep striving to check, clean and dry their fishing equipment when moving between rivers.

Fishery status update

Largely attributed to the lake not mixing in 2005, fish size and condition suffered over 2007 and 2008. Winter storms normally mix the different temperature levels in the lake, and in doing so bring up nutrients from the deeper levels into the surface layers where most of the life exists. When this doesn't happen the food-chain suffers and therefore so does the trout.

However the fishery seems to have turned a corner. The condition of the fish is improved on this time last year with maiden fish measured having an average condition factor of 41.7 compared to 39.6 last summer. It is apparent that the majority of young fish have done very well consistent with the large numbers of smelt observed around the lake shore this summer, but that there are some maiden fish that are still lean. Nevertheless all in all, the fishery is in a lot better shape than this time last year.

Also during the course of this season the minimum size limit for trout was reduced to 40cm. The new limit has had a major effect on the number of trout anglers can keep, with 40% of fish now put in the fish bin being illegal under the old size limit of 45cm. Turned around the other way the harvest has increased by 65%, which, while a major increase is likely to be more consistent with the harvest a decade ago. Nevertheless, the effects of this need to be watched closely as there have been issues with over-harvest in the past, but we are confident the new 40cm limit is still exerting a significant restraint on harvest, and protecting the future fishery.

So 2009 has been a busy and dynamic year, with the promise of much to look forward to in the coming months. Why not come down and wet a line, take a look at the improvements at the trout centre, and enjoy the rest of what our region has to offer?

Compliance and law enforcement work is an ongoing task for the fishery. Summer lake and winter river angler surveys continue to be key role undertaken by fisheries staff and in general the vast majority of anglers are compliant and happy to be interviewed. Remember if you see something suspicious happening in the fishery, ring the duty officer on 0272907758. Someone will be available to take your call 24 hours a day 7 days a week.

William (Bill) Salt left his mark on Tongariro National Park

Right: The William Salt lantern slide box with a photo of him.

Photo: Sarah Gibb

Below: William Salt at Waiouru Railway Station

Below right: Climbing Mt Ruapehu.

Photos: TNHS

William Salt was a significant figure in the development of recreation in Tongariro National Park and a keen photographer. He died as a young man but his name is well known in the park in connection to the history of skiing.

As a founder member of the Tongariro National Park Board he had an immediate and lasting impact on the fledgling ski industry. Salt built the first cart track into Whakapapa and built the first buildings at both high and low levels, as well as the first hut above Ohakune.

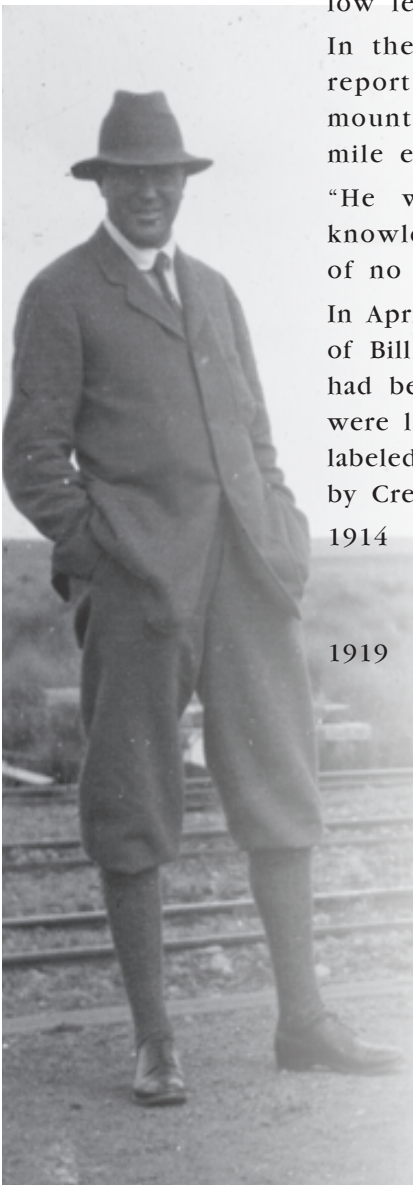
In the lovely prose typical of the day, Ruapehu Ski Club's annual report noted: "There was deeply rooted in him a great love of the mountains, whither he would often betake himself and roam many a mile enjoying the wondrous beauties of their snowy peaks.

"He was also a student of nature, and possessed an intimate knowledge of our native flora and fauna, besides being a geologist of no mean order."

In April 2009, Tongariro Natural History Society presented an exhibition of Bill's photographs at the Taupo Museum. The original photographs had been unearthed last year in the DOC offices at Whakapapa. They were lantern slides, in a red wooden box that looks purpose made and labeled William Salt, 1919, Ruapehu Ski Club. The exhibition was funded by Creative Taupo.

1914 William Salt is present (along with the Mead brothers) at the first annual general meeting of the Ruapehu Ski Club and would go on to play a large part in the opening of Ruapehu to skiers.

1919 The Department of Tourism and Health Resorts contracts (for £500) Bill Salt and T.W. Downes to build an access road from the highway to Whakapapa. With the help of several Ruapehu Ski Club members they construct an 8km cart track through the bush and across the tussock, and name it Bruce Road, in acknowledgement of the substantial donations made by R.C. Bruce, a Rangitikei farmer.





Above: Skiers at Whakapapa. From left to right - William Mead, Ted Cole, William Salt, Bill Beatty, Chas Cooper.

Below right: Filming on Mt. Ngauruhoe. Photos: TNHS

- 1920 Salt and Downes built the first hut at Whakapapa (not far from where the Chateau now stands) - Whakapapa Hut - tramping and ski club members stayed in the hut.
- 1921 Salt builds a similar cottage on the south-west slopes of Ruapehu at the head of the Ohakune track.
- 1922 He was a founder member of the Tongariro National Park board and his tireless energy and enthusiasm was of material help in the development of the park as a national playground.
- 1923 Salt helps build the original Glacier Hut for the Ruapehu Ski Club at 5800 ft.
- 1924 Built the Springvale Suspension Bridge across the Rangitikei River on the Napier-Taihape road (previous to this, cars had to ford the river).
- 1929 William Salt died July 12th as a result of a truck accident on the lower slopes of Ruapehu near Karioi on July 6th.
- 1931 Salt Memorial Hut was built on upper Scoria Flat, 1550m (5080 ft) altitude. It was the only public shelter for 20 years, partly funded by funds left by Salt after his death.
- 1938 First ski tow in New Zealand was installed near Salt Hut - failed after a few hours and never worked again.
- 1942 Buildings at Whakapapa (including the Chateau) and Salt Hut were placed under the jurisdiction of the Health Department during WWII and were not available to skiers.
- 1947 Ted Pearse built the first fixed ski tow in New Zealand - the Salt Run Tow.
- 1949 Tourist Department began using ex-army trucks to transport visitors to Salt Hut (these were known as "mountain goats" and the name still sticks).
- 1960 Salt Hut was closed.



The Tale of a Stoat Tail

Its 3am. July 2008. And as I lie in bed listening to the rain on the roof, cup of tea perched on the bedside table, flicking through Trout at Taupo, a favourite classic of mine, when Whammo!! There in front of me is a photo of a stoat tail fly. This is certainly not the first time I have read the book, and certainly not the first time I have noticed this particular fly fly, but suddenly it has taken on a whole new meaning for me. And its' relevance?



Right: Didymo Dave at Hatepe with another dead stoat.
Photo: Kim Alexander-Turia

Below: Putting stoats to good use - a stoat tail fly.
Photo: Greenstone Fishing

Well, for the past 18 months or so I had been running a trapping programme along the banks of the Hinemaiaia stream in Hatepe, trying to put a dent in the local pest population so that the native birds would have a fighting chance along one of my favourite stretches of trout stream. This is for me a small way to enhance my time on the river, with the flitting fantails and barrel-rolling kereru always adding an enjoyable element to the day of the water. I had been nailing a few stoats too, along with a multitude of rats, and my 3 am revelation was that I could make flies from the tails of these little blighters. In that moment the idea grew legs and ran. Why not sell the flies, and donate the proceeds to the protection of whio and kiwi, let them have a last laugh in what is a sadly one sided battle?

So that's what I do, and have had stoat tails from all sorts of places now that people know what I am up to. This takes some doing, as they are smelly beggars at the best of times, let alone after a day or two in the sun, and for that reason I am really grateful to people who take the effort to help supply my little enterprise. I have even had a delivery of tails from Peter Mc Murtrie from DOC in Te Anau, and these have been gladly added to the pile of stoat tail flies coming off my fly tying bench.

I had something approaching \$200 set aside from my sales of flies when recently the opportunity arose to purchase 20 DOC 200 traps, boxed and ready to go. These quickly joined the array of traps along the Hinemaiaia, and my trap lines are now really primed to deal to the local rodents and mustelids.

Even with my new arsenal of traps I am struggling to keep up with demand for the stoat tail fly however, and so I am appealing to each of you out there who has a trap to protect your compost or chookhouse, if you happen to nail a stoat please think of me and send the tail my way. Ring DOC Turangi, and ask for Didymo Dave, they'll track me down.



Freshwater fish survey of the Manganui-o-te-Ao

In 1986, a freshwater fish survey of the Manganui-o-te-Ao and its tributaries was completed, identifying eleven native freshwater fish species. Twenty-three years later we aimed to follow in their footsteps and see whether we could do the same.

When people asked how my freshwater fish survey was going, I couldn't help but think it was much like the rendition of a skater learning to move on the ice for the very first time - except there were no skates, no ice and definitely no graceful moves. Instead I had constantly flailing arms as my legs decided to rebel and go their separate ways on slippery rocks, icy cold mountain stream water pouring down my waders when I occasionally lost the vertical battle and ended up horizontal (regardless of the flailing) and the mysterious movement of hidden rocks into my path just waiting to trip me up. I assure you, those streams aren't as harmless as they look. What I say however, accompanied by a delighted grin, is that the survey was going great.

During the day two of us would stumble our way up crystal clear streams, with the sun sparkling through the overhanging trees, where the only noise is the bubbling water and the birds in the bush, hugely entertained at each other's undignified slips and trips. We've had the opportunity to see some of the most pristine freshwater environments in the area, and with our electrofishing gear, got a look at a range of native fish species - from koaro and torrentfish to bullies and long-fin eels. At night armed only with a spotlight, we've braved the shadowy torrents in search of those who have eluded our daytime efforts. There is something special about watching koura scuttle about their business, koaro quietly camouflaged against the pebbly background and big eels darting into crevices and recesses of banks.

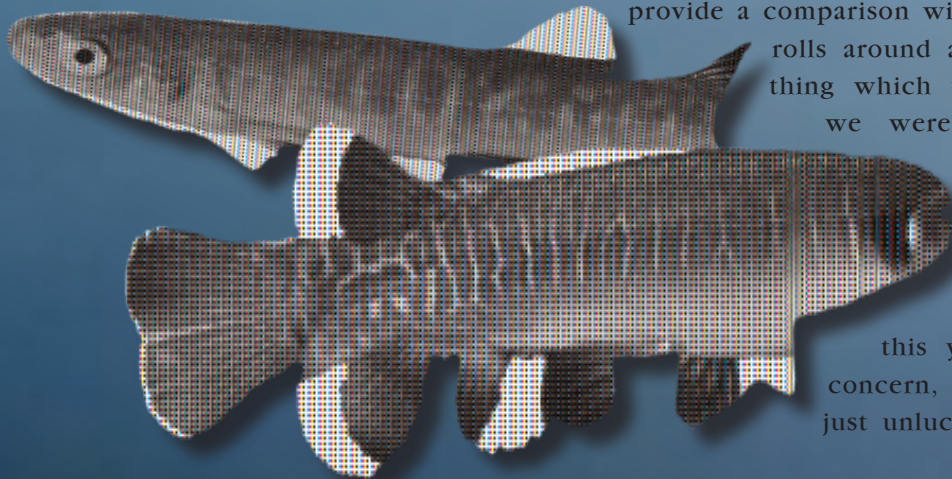
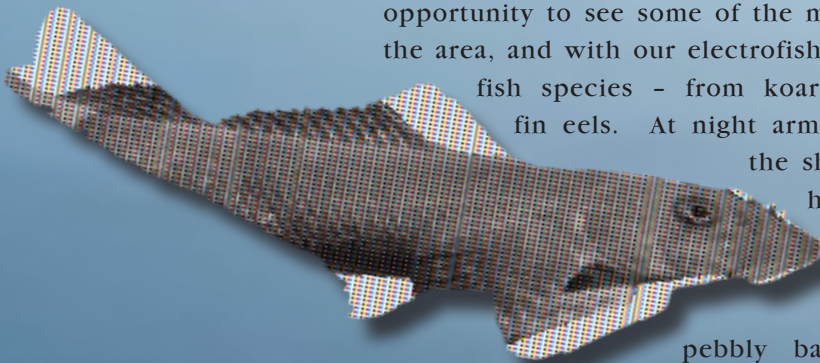
Unfortunately we didn't manage to complete the survey this summer, with events conspiring against us, and for that reason we are not able to provide a comparison with the 1986 survey. Once summer rolls around again we can finish the job. One thing which was apparent however, was that we were unable to locate several key species which had been located at a number of the sites twenty three years earlier. Both banded and short-jawed kokopu eluded our best efforts to find them this year, and that is something of a concern, although it is possible we were just unlucky. After all, that's fishing!

Top: Torrentfish

Middle: Short jaw kokopu

Bottom: Banded kokopu

[From photos by GA Eldon]



One of the highlights of this survey has been the interest it's generated to people passing by. It was rare to spend a day without having at least two people ask us what we were up to, some more suspiciously than others. I suppose we did look a bit strange as my fishing partner sprayed my backside to prevent any didymo that may be present from spreading to other streams (remember everyone: CHECK CLEAN DRY!) along the roadside. We've had a great response from railway workers, tourists - one in particular who complemented all of DOC on the work that's been done around the country, locals, landowners who have kindly allowed us to access streams via their land and even a truck driver who stopped on a one way bridge to have a prolonged conversation.

All in all, despite the bumps, bruises and various other indignities those streams dished out, I found myself standing knee deep in rapids looking down on a gold-flecked koaro, with a silly smile on my face wondering how it is that I'm lucky enough to get paid to do these things. Then again, perhaps I shouldn't be questioning these things too closely ...

It's raining seeds on Ruapehu!

Robyn Ellis
Survey and monitoring

This year we are monitoring beech seed 'rain' within the Karioi Rahui forest, where a beech mast was predicted for 2009. These events are very important for us to understand because of the threat they can pose

to our native species. A beech mast is when beech trees produce far more seed than usual, which sit on the forest floor until spring when they germinate. This is a huge food bonanza for rats and mice, which reproduce heavily as a result. They in turn will provide a source of food for stoats, which can become very abundant. These stoats then go on to have a huge impact on native birds after the mouse population crashes when it runs out of beech seeds the following spring. The increase in rat and stoat numbers following a mast is shown to have major consequences for our native wildlife. Juvenile kiwi and vulnerable hole-nesting species such as short-tailed bat, kakariki and kaka in areas such as the southern side of Mt Ruapehu, especially in the Karioi Rahui, will be preyed on by rats and stoats.

The beech mast prediction came about by using a model which looked at the mean daily temperatures of January-March for the last 40 years, combined with some previous seed fall data and projections. The model predicted that we were due for a humdinger of a mast, and it was pretty much spot

on. The first set of seed fall traps were chocker full of seed, and several staff have had the long and tiresome job of counting just how many seeds have been collected.

[Continued on page 38]



Above: Elhay Ruri is a seasonal Ranger at the Ohakune field centre. He's holding up almost a month's collection of beech seed collected in stockings.

Conservation with communities

Working with communities is an important role nationally for the department. Sharing conservation work and supporting communities and individuals to contribute to conservation is rewarding for all those involved. In the Turangi/Taupo Area this has been another significant year in this respect. Here a just a few groups that the team are involved with locally.

Tongariro Natural History Society (TNHS)

TNHS with DOC have been in the business of preserving Tongariro National Park, a World Heritage area of cultural significance and its environs for over 25 years now.

TNHS members come from all over the North Island and have a special affinity to the mountains of the central North Island. Volunteers like to come back to the area to work on a variety of different projects throughout the year. Current projects include; the restoration of the Hapuawhenua Viaduct, Ohakune Old Coach Road, restoration of the Waimarino Wetland and operating a nursery, which ensures planting throughout the conservancy is another important focus.

Rotopounamu is their most significant ecological restoration project. It is a joint initiative with DOC aimed at restoring the mauri of this jewel site by restoring the area to its natural state to enhance native fauna and flora in the area.

It is a long term project, using intensive pest control in the form of 500ha of lines of bait stations. The bait stations are filled with poison fortnightly over the summer, heavily reducing rat and stoat numbers and giving birds a chance to breed. This requires huge volunteer commitment from members. There are also 50 traps around the Lake track and one of the pleasures for volunteers is clearing those traps of dead rats and stoats.

DOC has also come onboard to make significant track improvements taking out the steps and therefore making the track accessible for pushchairs. With the increase of bird song and planned improved interpretation this is a great place for families to go for a nature walk. www.tongariro.org.nz

Advocates for the Tongariro River

The pine trees at the Red Hut Bridge along the Tongariro River are all turning brown! The Advocates for the Tongariro River, a local community group, brought a contractor in to deal with these wilding pines with a view to returning the river environment to its original state.

The Advocates sought funding from the Waikato Ecological Enhancement Trust in March 2007 for a pilot trial of control of pines from SH1 Bridge to the Major Jones fishing pool. The trial proved successful and they sought further funding from Environment Waikato in 2008 for the work currently being done. The funding enabled them to pay a contractor to complete the bulk of the work. The trees have been poisoned by injection of a low rate of chemical and the treated trees turn brown quite



From top to bottom: The Pukawa Wildlife Group - making a positive community difference. Photo: Kim Alexander-Turia; Oamaru Painters. Photo: Supplied; Evidence of the work of the Advocates for the Tongariro River - wilding pines turning brown. Photo: Kim Alexander-Turia; Ang Paget and Simon Mills packing traps. Photo: Dave Conley

rapidly and then slowly decay and then disintegrate over a period of several years. Dave Lumley, Area Manager says “even after a short period of time you can already see the benefits of regeneration of the native understory now that the shading canopy created by the large pines has been removed”.

In acknowledgment of their efforts with a number of conservation projects the department has established a joint community sign showcasing the important work they do in the community, and in 2008 they received a Conservation Award for the work the group had done. www.tongariroriver.org.nz

Blue Duck Charitable Trust - Whio on the Tongariro River

A group of local business people, lead by Garth Oakden, Craig Morey and Rayner Bonnington, have set up the Blue Duck Project Charitable Trust and are on a mission to protect blue duck (whio) by trapping predators like rats and stoats along the banks of the Tongariro River. Dozens of wooden trap boxes have been placed along the Tongariro River walkway. The boxes are a part of a bold initiative to try and bring back one of our most endangered birds to this most famous River. Whio, which nest in burrows and caves along the river bank, are one of New Zealand’s most endangered birds, and nesting females and young chicks are especially vulnerable to predators like stoats.

A group of over 20 locals, including a large component from Turangi’s DOC staff, hit the river track on mountain bikes and pushing wheelbarrows, laden with trap boxes and fresh eggs for bait to help get this project off the ground. Community volunteers continue to maintain the traps.

The project has just set out 160 traps along both sides of the river from the Major Jones footbridge to the Fence pool in stage one of what will be a two stage process to trap the entire length of the river from the Poutu intake to Turangi township. It is hoped the second stage of trapping from the Fence pool upstream will get underway in the very near future. Phone: 07 386 6049.

Pukawa Wildlife Group (PWG)

The Pukawa Wildlife Management Trust consists of a small number of dedicated residents who check rat and stoat traps on a weekly basis in the settlement of Pukawa on the shores of Lake Taupo. The group have also established a comprehensive network of rat bait stations to assist in keeping rat numbers at a low level during the bird breeding season.

Trap lines have been placed throughout the bush around the settlement and surrounding areas with the aim of protecting

bird and plant life, and in doing so bringing back the birds.

Kereru and tui in particular are seen in increasing numbers, feeding in Pukawa backyards and tall trees. The group also work to protect the rare mistletoe and green hooded orchids which can be seen growing on the edges of the walking tracks. Email: genie02@orcon.net.nz

Bike Taupo

Bike Taupo has continued its work developing and maintaining mountain biking tracks in the district. The department's relationship with Bike Taupo started with the first joint initiative, the Rotary Ride Track and the relationship has been further strengthened with our work together on their latest big achievement.

This has seen the completion of the Headland track on the W2K (Whakaipo to Kinloch) Track. This provides a 10.4km loop further out to the Whakaroa headland on top of the existing 14km track, winding its way through some spectacular kanuka forest before opening up awesome views of the lake and surrounding mountains. A new pump-out toilet has been installed about half way over the W2K track as well, for those who get caught short! Bike Taupo members and volunteers are passionate about providing recreational opportunities for mountain bikers in Taupo, and are important advocates for growing recreational opportunity locally. www.biketapo.org.nz

Deer Hunters Association

In a partnership agreement reached four years ago, the Taupo Branch of the NZ Deer Stalkers Association has assisted the department in painting three Kaimanawa back country huts at Waipakihi, Oamaru and Boyd. Capably led by Curly Elmiger, the team enthusiastically embraced the project and undertook the painting in a very professional manner. With each hut taking several days to complete, the team was flown in by helicopter which enabled them to enjoy the back country and some hunting without a long walk in. As well as the flash new paint jobs, the huts have had new wood burners installed, so the huts are in very smart condition.

The project has been a huge success, so much so that the Deer Stalkers are keen to undertake more projects in the future. Our staff have really enjoyed working with the local club and are very keen to build on the new relationship that has developed.

As you see can it has been a busy year for the Turangi/Taupo area staff who have enjoyed their time working and supporting local community groups. Conservation volunteers make an important contribution to conservation in New Zealand and we'd like to thank all volunteers who have helped these groups and becoming members. Being a volunteer is a chance for people to engage in what they have a passion for, and as you can see there is a wide range of opportunity available. You also get to work as part of a team, share your skills and learn new ones, and experience conservation in action. The projects all have conservation values and they couldn't be done without your help. Please contact anyone of these groups and volunteer! They would love to hear from you.

Background: Mountain bikers set out on the W2K track between Whakaipo Bay and Kinloch. This track is an example of the strong relationship the department has with Bike Taupo in establishing joint use tracks. Photo: Kim Alexander-Turia

Ruapehu highlights 2008-09



Right: Ngamokai
Papakainga Marae.
Photo: Herb Christophers

DOC does DIY marae

Talk about community relations with a difference! Eighteen DOC staff from the Ruapehu Area spent two days of fun and toil on Ngamokai Papakainga Marae at Karioi assisting whanau and other members of the community in a major restoration project.

The wharepuni dates from the 1920's and was in a sad state of repair. Although a replacement wharekai had been brought onto the site in the 1990's, it was also in need of a good repaint and tidy up. Our team from Visitor Assets was keen to make the most of their chainsaws and diggers and so tackled a major part of the project removing huge pussy willows from the banks of the Tokiahuru Stream. Their expertise was soon apparent as they felled and removed the tangle of willows. By the time the two days was over the marae had access to this beautiful stream which is boarded by large grassed areas cleared of gorse and broom by the team. Others in the team helped dig trenches, build ponga fences, plant gardens and paint the buildings. A large number of native plants including 200 tussocks were supplied by DOC and the area around the marae was landscaped using large boulders infilled with soil and gravel. The end result of all the community's efforts was a beautiful marae which our DOC team have been very proud to have contributed towards.

Sir Edmund Hillary OPC Environmental Education Programme

The Ruapehu Area office has an on-going environmental education programme with OPC. This is a great opportunity for DOC to upskill instructors with knowledge of the physical geography of the area, the bio-diversity and the management of the Tongariro National Park and conservation areas. Six evening presentations are held throughout the year covering such things as whio and kiwi recovery work, volcanic risk management and pest control. The instructors are then able to pass much of this knowledge onto the thousands of students who take part in courses each year.

The community relations staff also work directly with some of the school groups visiting OPC as well as providing resources for the instructors to use to work with them.

OPC is also taking part in the stoat trapping programme on the Mangatepopo River to help with the protection of whio.

Whakapapa Village community and friends go stoat trapping

Whakapapa Village has got its fair share of the country's stoats at the moment but as a result of a community initiative lead by the Whakapapa Holiday Park and Ohakune Primary School, we hope to see a huge reduction in their numbers by next summer. The village has a resident population of a few kiwi and it would be fantastic if once again we could have kiwi breeding in the area and chicks successfully making it to adulthood. As well as trapping stoats the traps help keep down the rat numbers also which is a big help to the success of robins, fernbirds, tomtits and riflemen around the village.

During March, students at Ohakune Primary School manufactured 20 stoat boxes and fitted DOC 200 traps to them. They decorated the sides of them with some fun pictures and messages for the stoats. They then had a great day out with the staff from the Whakapapa Holiday Park and DOC, locating the traps along the Whakapapanui walking track. The Holiday Park staff will continue the checking and re-setting of the traps over the following months.

This is a long term project and the school students and other community groups will continue to build traps and take responsibility for monitoring them. The reward for all their hard work will be to hear once again a dawn chorus from our birds and the call of kiwi around the Village.

Country kids explore Rotokura wetlands

Two cluster groups of four primary schools recently visited the Rotokura Ecological Reserve Dry lake to apply a hands-on approach to learn about why wetlands are so important.

The wetlands workshop was hosted by Ngamatea School with students from Orautoha, Te Kura Kaupapa Maori o Ngati Rangī, Rangiwaea Juniors and Ngamatea School participating. A second wetlands workshop was held a couple of weeks later for Rangiwaea Seniors, Kakatahi, Aberfeldy and Ngamatea school.

These schools have been studying wetlands as part of their topic-related work, or have been studying this and similar topics as part of an ongoing Enviroschools programme.

Both days started at Ngamatea with introductions, then both groups travelled in convoy to the Rotokura Ecological Reserve Dry lake, which is a good example of a wetland that is in excellent shape.

DOC experts Jess Scrimgeour and Alana Lawrence spoke about why wetlands are important and after a demonstration with sponges, a sieve, and some dirty water they explained how wetlands act as a sponge. Dirty water comes into a wetland area from higher up in the surrounding



area. Wetlands slow down the flow of water, so help prevent floods when there has been a lot of rain. They also purify the dirty water. The streams that flow out from a wetland that is in good condition are very clean.



TSO Dave Conley spoke about why wetlands are special and explained that there are not many wetlands left, as many have been drained by farmers for grazing stock.

Students learnt that wetlands are home to some very special plants, birds, fish life and invertebrates. Some of these are very rare and need protecting. They were able to understand the fragility of the wetlands ecosystem by participating in the Life Chain game realising that all things are connected.

The students got to take part in hands-on activities that included looking at and identifying insect life using magnifying glasses and charts and recording what they could see, hear, and smell.



Back at Ngamatea School the students did some wetlands activities inside, including designing a wetlands mudfish and researching facts about wetland creatures and plants. Ranger Jess talked about the many types of native birds that live in and around wetland areas and Ranger Aniwa Tawa taught the school groups in Workshop One a waiata called 'Piwakawaka' written by Pou Kura Taiao, Dave Para, while the second group took the opportunity to choreograph 'the Pukeko dance'.

A lot of learning and shared experiences enveloped adults and students alike under the ever present Maunga Ruapehu at the Rotokura Ecological Reserve Dry Lake in the Karioi Rahui.

"Ko tau rourou, ko taku rourou, Ka ora e te iwi e"

"With your basket, and with my basket, all will be well"

All in all a great day, with the young students able to demonstrate a new awareness of the importance of our threatened wetlands. We can only hope they carry that through to adulthood as the Kaitiaki of the future.



From top to bottom: Removing pussy willows from the banks of the Tokiahuru Stream.

Photo: Herb Christophers;
Students from Orautoha, Te Kura Kaupapa Maori o Ngati Rangi, Rangiwaia Juniors and Ngamatea School at the Rotokura Dry Lakes; Ohakune Primary School students placing stoat traps; Ohakune Primary decorated the sides of the stoat boxes with pictures and messages for the stoats; Combined schools at Rotokura. Photos: Aniwa Tawa



Tauira Kaitiaki Taiao Conservation Cadetship 2009

Right: Al Morrison, Leith Comer and Dr Tumu Te Heuheu complete the formalities.

Photo: Kim Alexander-Turia

Background: Otukou Marae. Photo: Iain Rayner

“Waibo i te toipoto kaua i te toiroa’

**Let us keep close together
not wide apart**



The Launching

February 9th: The sun shone brightly, the crowds were huge and the atmosphere charged as we 15 new excited Maori cadets (five from the Northland, five from the Bay of Plenty and five from the Tongariro region) took our first step towards a career in conservation.

The launching of Tauira Kaitiaki Taiao was hosted by the paramount chief of Tūwharetoa Dr Tumu Te Heuheu, who is also the chair of the Nga Whenua Rāhui committee. The event was attended and supported by the Minister and Associate Minister of Maori affairs Hon Dr Pita Sharples and Hon Georgina Te Heuheu, not to mention Department of Conservation Director General Al Morrison and the Chief Executive of Te Puna Kokiri Leith Comer.

Our sponsors

The Department of Conservation in partnership with Te Puni Kōkiri and Ngā Whenua Rāhui has created this programme to develop the conservation skills of people who are able to partner with and support the longer-term conservation aspirations of iwi and hapū.

The Vision

The vision is that we the Tauira Kaitiaki Taiao will assist iwi and hapū, as well as the Department of Conservation, in caring for native bush, rivers wetlands and marine areas.

The Tauira Kaitiaki Taiao will help build Maori capability for conservation management. This is not only important for the department but also for iwi who are taking on increased responsibility for conservation management through their Treaty settlements with the Crown. It is hoped that the Tauira Kaitiaki Taiao will eventually become employed by our iwi for conservation's overall gain.

What is the cadetship all about?

Tauira Kaitiaki Taiao is a pilot training programme which gives us the opportunity to gain hands-on skills, training and conservation work experience (Realizing Maori Potential). Through a mix of formal training delivered by Nelson Marlborough Institution of Technology and Te Wānanga O Aotearoa we will gain a Level 3 National Certificate in Conservation and Tikanga Maori.



We have been employed for 21 months to give us the hands-on work experience for the Department of Conservation at our own local area office and block courses.

Who are the Tauria Kaitiaki Taiao?

We are the bold new look of contemporary & Maori conservation

Tongariro/Taupo Conservancy

Kayall Prentice
Te Wharerangi Wanikau
Neal Turanga
Nathaniel Mellon
Hariata Anderson

Bay of Plenty Conservancy

Whakarae Henare
Kohu Kōhiti
Jade Connelly
Te Tahi Rangiheuea
Awhimate Eru

Northland Conservancy

Ninja Herewini
Henare Winterburn-Chapman
Kylie McDowell
Aleesha Bennett
Matiu Mataira



Highlights from the Tongariro/Taupo Conservancy Tauria over the first six months

Nathaniel Mellon: Turangi/Taupo Area - Visitor Assets and Recreation

An unforgettable moment for Nathaniel was when the Visitor Assets and Recreational team along with myself travelled the Umukarikari track in the Kaimanawa forest park replacing old wooden track markers with new blue winter markers. The amount of effort it took to accomplish the task was unbelievable with the strong wind throwing us off balance, staggering from marker to marker and the rain hitting at us on the side like sharp little needles.

When the team reached its destination the weather cleared revealing a kaleidoscope of mountains, lakes, rivers and forest. The trip home on the helicopter was a bonus.

Kayall Prentice: Ruapehu Area -Visitor Assets and Recreation

A highlight for Kayall is being out and about doing heaps of outdoor adventures and maintenance. Kayall has been out at the Taranaki falls repairing the track where it slips down into the river restoring the temporary track back to vegetation. Kayall thoroughly enjoyed the fire environment and medium pump course, roads maintenance and windfall clearing in Ohinetonga.

At this present moment Kayall and his team are building a new room in their fire store for their personal protection equipment.

Te Wharerangi Wanikau: Ruapehu Area-Bio-diversity Threats.

Te Wharerangi's highlights are waking up in the cold morning being very excited that his task is to walk up the river in shoulder deep water

From top to bottom:

Neil shows off the Te Whaiiau fish trap.

Photo: Iain Rayner;

Hariata Anderson meets the Minister of Maori Affairs, Dr Pita Sharples.

Photo: Kim Alexander-Turia; The blind leading the blind, together we gain strength.

Photo: Iain Rayner;

Far right: Hitting the books at the latest course at Otukou Marae.

Photo: Iain Rayner

checking stoat and rat traps along the banks during winter, what an awesome highlight. These traps are in place to protect our native Whio. Another highlight is being able to fly around in a helicopter and to go to places he has never been before.

Neal Turanga: Taupo Fisheries.

Since starting with the Taupo Fisheries team Neal has learned many new skills that revolve around Lake Taupo and the tributary rivers and streams. The jobs that he is tasked with include fish trapping, didymo surveys, and compliance law enforcement training, but the highlight of his work so far is getting to handle some of the best trout in the world.

Hariata Anderson: Turangi/Taupo Area- Bio-diversity Pest control

My favourite highlight is having the opportunity to be flown deep into the Kaimanawa Forest Park to chop down wild Pinus contorta growing off massive cliffs with my favourite hand saw. I always thought I wasn't scared of heights but from that experience I found out I was although the view was magnificent.

For the first six weeks into our course I had a great opportunity to go to places I've never been before like Rangitaiki Conservation Area and the Te Maire Wetlands, Kaimanawa Forest Park, Rotokawa geothermal area, not to mention flying around one side of Mt Tongariro and landing on top of Mt Pihanga. Sure beats walking!

Group Highlight

As a group our highlight is being able to work and learn within such a great team and department, not to mention being able to join up with the other Tauria Kaitiaki Taiao every second month at a marae-based block course and tikanga Maori training. This also gives us the opportunity to re-cap on what each tauria have been doing within their area.

Tauria Kaitiaki Taiao will continue till the end of next year. We would like to thank our Tutors Matua Tiari Timutimu, Matua Scott Nicoll, Matua Iain Rayner, Matua Jade, Whaea Kataraina and Whaea Maria for the awesome training opportunities you all have given us and still are. We would also like to thank our hapu/iwi and whānau for all the tautoko and awhinatanga.

To the Department of Conservation, Nga Whenua Rahui and Te Puna Kokiri thank you for the outdoor, hands-on experience, thank you for making this experience possible. To all the Tauria Kaitiaki Taiao - "kia kaha, kia maia, kia manawanui".

*E tipu e rea mo nga rā o tou ao;
ko to ringa ki nga rākau a te
pākaha hei ara mo tou tinana,
ko to ngākau ki nga taonga a
ōu tupuna Maori hei tikitiki mo
to māhunga; ko to wairua ki to
atua, nana nei nga mea katoa.*

**Grow up and thrive for the days
destined to you, your hand to the
tools of the Pakeha to provide
physical sustenance, your heart to the
treasures of your Maori ancestors as
a diadem for your brow, your soul to
your god, to whom all things belong.**

“Wetlands? Aren’t they just swampy places where sandflies and mossies hang out?”



Right: Wetlands are valuable recreation resources too.

Photo: Lucy Roberts

Below: Chris and Andrew calling bitterns.

Photo: TNHS

The words wetland, swamp or bog for many people immediately conjure up images of uninviting places which are dark, wet, muddy, smelly and sand fly infested. In New Zealand, like most places in the world, we have seen wetlands, swamps and bogs as difficult places to travel through, or to farm and have considered them to be unproductive wastelands. As a result we have chosen to “improve” swamps by draining, developing and modifying them to use the land more productively. Wetlands once covered extensive areas of New Zealand. About 90% of freshwater wetlands have been destroyed in the last 150 years. Now wetlands are some of New Zealand’s rarest and most at-risk ecosystems.

What is a wetland?



A wetland is as it sounds, simply an area of land which is wet, covered in or saturated by water. The character and look of a wetland is shaped by a number of factors including climate, soils, hydrology, topography, and water chemistry. Some wetlands where the water table is above or just below the ground surface have saturated soils all year round, where as some ‘ephemeral’ wetlands are only wet for a few weeks or months of the year. Many of the wetland plants and animals are special and unique often with fascinating adaptations which allow them to live in a wetland ecosystem. A great example is the carnivorous aquatic plants called Bladderworts (*Utricularia genus*). These submerged and floating plants suck mosquito larvae and water fleas into a tiny bladder like trap before digesting them!

According to a survey carried out in 2006 the Tongariro Taupo Conservancy has 132 wetlands including swamps, marshes,

ephemeral wetlands, bog, fen and alpine flush. These wetlands range in size from less than one hectare to 1500Ha (Galbraith et al 2006).

This conservancy has one of the largest wetlands in the North Island. The South Taupo Wetland is approximately 1500Ha in size, and is situated between Motuoapa and Waihi along the Southern shores of Lake Taupo. It is dissected by the Tongariro, Waimarino and Waioatoka rivers, which provide a constant flow of water. The majority of the land is in private ownership though approximately one third is public conservation land managed by the department.

So why are South Taupo Wetlands so important and why are we interested in restoring them?

“Wetlands are biodiversity hotspots, water quality protectors, flood mitigaters and scenic treasures” (Galbraith et al 2006).

Wetlands act as sponges, storing large amounts of water and releasing water in a controlled fashion. Wetlands also act like human kidneys filtering the water that has washed from the surrounding land and hills. Excess nutrients in the water like nitrogen and phosphorus are removed which is vitally important to improve the water quality of Lake Taupo.

The South Taupo wetlands are a regionally significant wetland and have been identified as a significant biodiversity site within the Tongariro Taupo Conservancy. The area includes a wide range of wetland vegetation types in which is found the following important wetland fauna; Australasian Bittern (nationally critical), Spotless Crake (relict), Marsh Crake (relict), Banded Rail (naturally uncommon), as well as good numbers of Grey Teal, New Zealand Scaup, New Zealand Shoveler, Mallard and Grey duck. The South Taupo wetlands are also home to a number of threatened plants including Yellow Bladderwort (*Utricularia australis*), Swamp Buttercup (*Ranunculus macropus*) and Stalked Adders Fern (*Ophioglossum petiolatum*).

What are the major threats to South Taupo wetland?

Although the view of wetlands as wastelands is slowly changing in New Zealand, they continue to be affected directly or indirectly by a number of factors. The most significant threat to the South Taupo wetland is the invasion by grey and crack willow, which are displacing the indigenous wetland vegetation resulting in a monoculture willow forest. A variety of willows were introduced to New Zealand for stabilising river banks, shelter belts and fodder. Grey Willow (*Salix cinerea*) in particular is drying out the South Taupo wetlands and shading out native plants. The aerial photograph of the Waimarino wetland, Motuoapa illustrates the dominance of Grey Willow on the wetland landscape.

What are we doing to control the Willow and restore the South Taupo Wetlands?

In 2005 the Department of Conservation and Tongariro Natural History Society started work to control willows in the Waimarino River Recreation Reserve. Further work has been carried out at other department



Above: Before and after photos of the Waimarino wetlands show the changes following the removal of willows.

Photos: Lucy Roberts (before) and John Grose (after)

administered wetlands including the Waitotaka Scenic Reserve. This work is part of a larger project to restore the wider South Taupo wetland.

The aims of the South Taupo wetland restoration project are:

- To restore and maintain a representative range of wetland vegetation types in a natural condition, specifically those that are particularly vulnerable to invasion by grey and crack willow, alder and Japanese honey suckle.
- To revegetate riparian stream and river margins with appropriate flood plain forest species.
- To advocate to adjoining landowners the significance of the wetland and promote to them the importance of its protection and conservation management.

CASE STUDY

South Taupo Wetland Restoration Project: Waimarino Wetland - undertaken by Tongariro Natural History Society (TNHS) and Department of Conservation

The aim of the Waimarino wetland project is to eradicate willows from the area and set an example that can be followed across the South Taupo wetlands, as well as trial the most effective methods of willow control. The project is largely funded by a grant from the Waikato Catchment Ecological Enhancement Trust (WCEET), and supported by the Department of Conservation (DOC), with sponsorship from Land Rover and TNHS member donations.

There are three methods of willow control used in Waimarino wetland; on foot and by air:

- Ground control of willow species is undertaken in sensitive vegetation types, including where threatened plant species are present, where access is easy and in areas generally with less than 20-30% cover of willows.
- Aerial boom control spraying is undertaken using Garlon360 (selective

herbicide) in monocot wetland vegetation types (raupo, *Baumea rubiginosa*, *Carex* and *Juncus* species) and in areas where willow density is high with over 30% cover.

- Aerial spot spraying is undertaken using a selective herbicide Garlon360 in all wetland vegetation types where density is less than 30% cover, but where access is difficult.

Big swathes of Waimarino are completely dominated by willow and in February these dense willow areas were controlled by helicopter using Garlon 360 herbicide and Boost penetrant. When revisited a month later the willows were all a sickly rust colour showing how well the job had been done, and they will be checked again for regeneration in the spring.

The more sensitive areas where native vegetation is plentiful were tackled by drilling and lopping willows with Roundup, and this too proved very effective judging by the dying trees a few weeks later. TNHS staff and contractors worked hard under the intense summer sun and sand flies and a good amount was achieved.

A number of vegetation monitoring plots were set up prior to the start of the willow control to measure the cost and effectiveness of the willow control methods, the impact on non-target native plants and the ongoing recovery and regeneration of native flora, especially in areas that were heavily infested by willows.

To gauge the effects of willow control on native wildlife, a programme of bird monitoring continued for the third consecutive year. A number of rare and endangered New Zealand birds were recorded in the wetland, including elusive Marsh Crake, Spotless Rail, Banded Rail, Bittern and Fernbird. A large number of birds use the lagoon for breeding, feeding and roosting and most species seemed to show healthy populations. A number of Royal Spoonbill were observed this season, including a group of four in December, a bird increasingly sighted in the Lake Taupo area.

Work is due to begin soon on clearing and planting an additional half hectare on neighbouring private land for use as a demonstration of best practice, and an area of 1ha on the banks of the Waiotaka was planted with a mix of native species in May by the Department of Conservation where before was only blackberry and willow. In addition an infestation of Japanese Honeysuckle was treated in the Waimarino wetland to prevent it spreading further.

In general the South Taupo wetland project is beginning to develop a real momentum, and we are really excited by what the future will bring. Wouldn't it be great if we could see people kayaking through a well restored and intact wetland, getting a close and personal taste of the diversity of wildlife that it would support?

References:

Galbraith, L. Singers, N. and Etheridge, N. 2006. Wetland Inventory - Tongariro Taupo Conservancy. Department of Conservation

A Ngati Rangi perspective of Kiwi Forever

Ngati Rangi has had the pleasure of hosting the Kiwi Forever programme for the last three years and has continued to see huge growth in the young leaders who have been a part of this programme during this time. Rangatahi (young people) from around our region participate in this programme annually hosted at Tirorangi Marae in Karioi.



Right: Counting Dactylnanthus seeds.
Below: A Kiwi Forever student tracking kiwi in Waimarino Forest.
Photos: Bhrent Guy

This small rural community on the southern slopes of Mt Ruapehu overlooks the Karioi Rahui nestled in the foothills of Rangataua forest.

It is from this base that these rangatira (leaders) of the future are immersed in the culture of the Ngati Rangi people, both on the marae as well as out in the ngahere (forest). In this environment these young leaders are introduced to the tikanga and values tangata whenua have for our lands, mountains, forests and waterways. They journey into the Karioi Rahui to discover the relationship Ngati Rangi have with our environment and are encouraged to open their senses and experiences to the whanaungatanga (inter-relationship) with all living things in the forest environment. In this way they begin to understand their inclusive part in the environment and respect for our whanaunga (wider family) in the forest, on the whenua (land) and in our waterways. While “Kiwi Forever”

maybe the theme of the weeklong development experience it is much more than that. It is an important journey into the cultural experience of living in a marae environment, a journey into the past, understanding the present and balancing options for a sustainable future. Through this experience environmental sustainability in a truly holistic way is being introduced and nurtured within these young people, guided by the manaakitanga (generosity) and aroha (love) of Papatuanuku (mother earth). The values of wairua (spirituality), manaakitanga, aroha, and reciprocal respect for our fellow beings in our



environment are the key elements of this learning using conservation of our national icon as a vehicle to achieve this. For Ngati Rangi the greatest gift is to witness the huge growth of these young people during the week they are with us. We cherish their development from a diverse group of strangers, as they blossom into a strongly supportive whanau with a much better appreciation of their environment and the cultural values of tangata whenua.

[Continued from page 23]

This data allows our staff to detect seed falls heavy enough to trigger rodent and stoat plagues. It also contributes to our understanding of the relationship between beech seed fall and small mammal abundance.

Seed fall from beech occurs from autumn though to early spring, the seeds are collected into stockings which can easily contain over 1000 seeds. To prevent the seeds from rotting; the stockings are then hung in a warm place to dry out the litter inside. The seeds need to be sorted out from all the litter, counted and then the data is extrapolated over the larger area.

Collection will continue through to the end of June or July, and data collected to date suggests very strongly that we have had a very significant fall of beech seed in the forests of southern Ruapehu this autumn. Thanks in large part to the statistical model which allowed us to identify the early likelihood of a mast event, a large scale pesticide operation is ready to go for the southern Ruapehu forests in July. With the evidence we have collected to support the predictions of a mast, we will be able to tip the balance back in favour of our native fauna, at least for a short while.

Below: The seed is collected using special funnels that are placed along transects at regular intervals under red, silver and mountain beech within the Karioi Rahui forest.

Below right: Counting seed is not the favourite job in the office at present!

Photos: Robyn Ellis



When the phone rings....TNHS to the rescue!



Right: Fiona ready to roll with a kiwi egg destined for Rainbow Springs kiwi centre.

Photo: Kim Alexander-Turia

Below: A bat in a bag!
Photo: Kelly Page

Just when you thought you were going to have another ground hog day, the phone rings at Tongariro Natural History Society. A moments silence is followed by Sarah saying “Yes, I’ll get back to you”. Each time she looks up from phone calls like these, she sees a very eager face with a smile, a hand raised and the words “pick me”. “Yes” she replies to the person on the end of the phone, “I have just the person for the job.” Sarah hands over the keys to the Range Rover and I know another exciting mission is in store.... I had to drop my paper work and go pick up a kiwi! As kiwis can’t fly, Houdini needed a lift from Rainbow Springs in Rotorua to Turangi so he could be released back into the wild. Riding as co-pilot for this job, we arrived in Rotorua to be handed two boxes, one with Houdini in it, the other his dinner of worms and meal maggots, “mmm, yummy”. We were told “please keep the box flat in the car (the front seat floor well), keep the temperature constant, no noise and please drive carefully.” It was like we had royalty on board, and off we go. Soft words all the way back to Turangi, we arrived back to TNHS all in one piece. Some DOC staff are waiting to take over, and Nicole Sutton decides to get the chick ready for release straight away, rather



than wait till they are in the bush. She takes Houdini out of the box and sits him on her lap, she places a transmitter on his leg, then gives him the once over, all good, time for a quick couple of photos and he’s back in the box and off to Tongariro Forest. Good luck little man, we all have our fingers crossed.

Second time out and we have a rescue mission to run. Something was going wrong with some native bats from Pureora forest, and the only way to look after the sick ones was to take them to Massey University in Palmerston North.

DOC staff brought it to us in Turangi and we would take them the rest of the way. All set and off in our Range Rover bat mobile. Again our instructions - "Please keep the car quiet, don't open the box no matter what noises you hear, keep the car at a constant temperature and drive carefully." By the time we arrive it's 6pm on the Sunday evening of a long weekend, and yet the Vet is still working. As we hand the bat over I ask if it is possible if we could come back in the morning and have a look at the bats and see how they are going. "Sure no worries, does 10 o'clock work?"

So it's Monday morning and it's our turn to get the royal treatment, and we are shown around behind the scenes of Massey University Vet Training Centre. We watched an Australian Water Dragon having an x-ray before we are taken to see the two bats that have survived. Thankfully ours is one of them. They were being fed bat's milk which had been imported from Australia, which shows the level of effort involved in high level care for native animals and birds. It turns out the bats had been inadvertently poisoned as part of a pest control operation in Pureora. This was vital information as it allowed for changes to be made in how the pest operation was run.

The latest call came in late March after some DOC staff looking for kiwi chicks had come across an egg. We are off to Rotorua once more. Travelling with someone holding a small chill bin in mid air so as to minimize any bumps must look quite funny, because we did get a few funny looks from passing traffic and work men. Next time I'm going to put a sign in the window of the car that states 'Kiwi Egg in Transit'.

We arrive at Kiwi Encounters to be met by very friendly staff, who ask us if we would like to watch as the egg is 'admitted'. After removing our shoes so as to keep the area free from dirt, they then clean the bench tops and ask me to open the chilli bin, which is placed on the floor, so as not to contaminate the work tops. There are two staff present working with the egg - weighing, cleaning the shell, measuring, and checking the air sack. They do this by turning off the lights and using a torch to see through the egg. Very cool! As the lights go back on we look up to see faces looking at us from behind the glass, and we find we are on show because we are in the middle of the Kiwi Encounters tour!

The staff continue with admitting, writing down such things as approximate days of gestation, cracks on the egg and any other marks that could hinder the chick from cleanly breaking through the shell, all the time continually explaining to us what they are doing and why. The egg is then moved into a sterile room, and we move to a viewing area where we watch the second part of the admission process. They tape and varnish the crack so that no bacteria can penetrate the shell. Finally they weigh and measure the egg and then place it in an incubator. The hour we spend there was amazingly interesting, finding out what goes on and how these guys are making a difference to the survival of the Kiwi. These three trips are unforgettable highlights of my first year with TNHS, and when I tell my friends they always comment, "You are so lucky". I love the fact they are right.

Roll on the next phone call I say!

Conservation Awards 2008

The 15th Tongariro Taupo Conservancy Conservation Awards were announced at the Taupo Museum in late 2008. In all seven awards were made, and once again profiled the large number of committed members of our community who are making a real difference in the conservation arena.

Taupo Office Products -Alan Payne

This award was received for the native planting along the Spa Huka Track and in particular the significant amount of follow up work after the planting. Situated just on the northern side of Hot Water Creek, the plantings are well established and starting to thrive. Murray Cleaver, Supervisor for Visitor Assets said in presenting the award that "Alan and his family have literally put in 100s of hours ensuring the plants have been kept weed free and well watered all along the track". Alan's efforts will ensure the track remains a testament to his efforts for years to come.

Taupo Bird Rescue Trust – Judi Smith and Suzy Walker

Judy Smith & Suzy Walker, have worked tirelessly for over 14 years looking after injured and abandoned native and introduced birds. Getting their hands on enough protein to feed the hungry birds is an ongoing problem. Some birds require feeding or medical attention every two hours day and night. The local area office is going to donate some traps to help collect rodents for the ever appreciative Bird Rescue hawks.

Recently, a morepork, which knocked itself senseless on a Rangipo prison gym window, was taken to the Turangi/Taupo area office. Bird Rescue cared for it overnight before Area manager Dave Lumley released it back at its original accident site. "This is a typical example of the dedication and care from Bird Rescue which gives the birds the best survival opportunity" says Lucy Roberts, Ranger for Biodiversity & Threats, "and makes them ideal recipients of the award".

Mapara Valley Preservation Society

The Society was presented with an award for the work they have done in lobbying for the preservation of Mapara valley including the Whakaipo Bay Recreation Reserve and the Whakaroa Scenic Reserve. The award was presented by Brian Robinson who is a member of the Tongariro/Taupo Conservation Board. He acknowledged it had been of tremendous conservation value to the areas involved and thanked the society for all their efforts towards this important work.

Advocates for the Tongariro River

This organisation has done sterling work in protecting the riparian sections of the Tongariro River, in particular the wilding pine eradication which has been a very significant project they have taken on. Wilding pines are a pest plant, visually intrusive, provide no berries and nectar to encourage native bird and insect life and compete with native species for forest space. For this particular project the Advocates raised the money



First row: Judy Smith and Suzy Walker; Advocates for the Tongariro River;
Second row: The rescued Morepork; Murray Cleaver presenting the award to Alan Payne and family;
Third row: Sarah Foreman with the award presented to Mapiara Valley Preservation Society; Barry Pope of Moerangi Station; Hadlee Cade with Nina Manning;
Fourth Row: National Park Progressive Association Inc receive their award.
 Photos: Kim Alexander-Turia



and then employed their own contractor to complete this important work and it remains ongoing. Leith Rhynd, Programme Manager for Biodiversity who presented the award acknowledged their persistence, hard work and dedication they have put in to these projects which have the objectives of protecting the values of this important river.

Hadlee Cade

Hadlee, at only fifteen years old, was acknowledged with an award for the amount of volunteer time and energy he has put in to help keep Didymo out of the central North Island. Hadley works along side his father (Didymo Dave) on the area's didymo campaign. Nina Manning, Technical Support, Didymo said "He's a fantastic advocate, engaging with the public and at 15 years of age is an inspiration to others both young and old". You will also find him on weekends down in Hatepe cutting honeysuckle along the Hinemaiaia River, checking rat, stoat and possum traps and carting water around to newly planted native trees.

Since his Conservation Award Hadley has been chosen to represent New Zealand at the Asia Youth Exchange program in Okinawa, Japan. Along with youth from around the Pacific region he will look at some of the environmental challenges facing the Pacific peoples.

Moerangi Station

This award was presented to Barry Pope, manager of Moerangi Station for the work which has been completed in planting the riparian sections of the station. Moerangi Station is located between Lake Otamangakau and Kuratau, and comprises a large part of the upper catchment of the Kuratau River. The award was presented by the Conservator, Paul Green, who stated that the farm entity was a great model for the future of the Taupo catchment, and highlighted they had planted and fenced off 135ha of a protected wetland area. He described them as leading the way with changed land use practices and reducing the nitrate leaching in to the lake.

National Park Progressive Association Inc

The Association has worked solidly, committing more than 2000 hours to re-developing and upgrading the spectacular Tupapakuraa Falls walk at National Park, using an old hunters' route. The new track which was developed by Association under the leadership of Murray Wilson over the past four years, leads off Fishers Road behind National Park Village, through regenerating bush past stands of tawa forest along the ridgelines to the Tupapakuraa Falls. Bhrent Guy, Programme Manager, Community Relations, Ruapehu presented the award and said "Passion and dedication is what drives community projects. The National Park Progressive Association and Murray Wilson are to be congratulated for completing a major track development project; the track is now a major community asset thanks to the work of this small dedicated group."

Bernard Stretch Memorial award

The Bernard Stretch Memorial award, which recognises sustainable environmental projects in schools, was not presented in 2008, but it is intended to be part of the Conservation awards again in 2009.

Turangi Taupo Area Highlights

"The last year's efforts have been tremendous and I'd like to thank my Area team for their hard work and professionalism in working across a range of often difficult and challenging tasks. Here is a brief outline of some of our highlights" Dave Lumley

Turangi/Taupo hunting website is launched

The website is a field of huge opportunity for the department to make great gains in informing the public about what the department does, and has to offer. The web can offer a very effective and efficient way to provide the public with the type of information they seek to know. In 2008 1.6 million people visited the DOC site, an increase of 40% over the previous year.

In February 2009 a new addition to the DOC website was developed for the Area. The Turangi/Taupo hunting website gives advice on a wide range of hunting opportunities, primarily focusing on Sika in the Kaimanawa Forest Park. However it also features information on where to find Red Deer, Wild Pigs and Wild Goats. You can also get downloadable maps of each of the hunting areas and some great information on how to plan and prepare. Check out www.doc.govt.nz/huntsika

Sika Show 2008

For the second year running, DOC staff from Tongariro Taupo Conservancy and Hawkes Bay Area took the brave step of fronting up to a convention centre full of hunters at the annual Sika Show held in Taupo over the 26th and 27th of September 2008. Not only was the show a great success but they all lived to tell the tale!

The department had a significant presence at the prize-giving which concluded the two day event. Herb Christophers and Nic Vallance attended from Head Office and had the honour of presenting some great prizes (thanks Stoney Creek!) to the winners of the inaugural *Powelltwhanta* colouring competition, with over 150 children taking the time to have a leisurely sprawl in our colouring zone and create some zany looking snails. Having the only stand that catered for younger children made the site a hit with the parents too!

In between the fun some serious work, with Eddie Te Kahika and Daniel Herries from East Coast really turning some heads with the presentation of the work they are doing with the Mountain Beech project in the Kaweka Forest Park. Local Turangi Taupo area staff also took the chance to help hunters understand a bit more about the work the Area does in the Kaimanawa Forest Park, as well as point them in the direction of some good hunting. That's dedication for you, giving up hard earned hunting spots!

Already plans are afoot to be back again next year, bigger and better, to build on a growing relationship with the hunters in the region, and what was once a sense of trepidation about being involved is becoming



Top to bottom:
 Daniel Herries at the Sika Show.
 Photo: Herb Christophers
 Tongariro National Park from the
 tops in Kaimanawa Forest Park.
 Photo: Kim Alexander-Turia;
 The new Turangi/Taupo hunting
 website

more a sense of excitement. That's what getting next to your community can do for you.

Recreation

Urchin to Umukarikari Track link up

What do you do with two great tramping tracks on either end of a mountain range? You link them up and it opens up a whole range of new opportunities for trampers.

Both tracks begin from Kaimanawa Road, accessed off SH1, 15kms south of Turangi. The Umukarikari track climbs steeply and steadily through the beech forest to the treeline. This track leads you to the Waipakihi Hut walking along the Umukarikari Range with wonderful views before descending to the hut. The Urchin track also climbs steadily up to the Urchin Summit then travelling for about 2km across open tops before dropping sharply down to the Waipakihi River and then up the valley to the Waipakihi Hut. The linking of the two tracks means you can walk across the ranges without having to drop down in to the Waipakihi valley. It's created a full day's trek which can be done in 8-9 hours for the more experienced trampers. The views across the tops are stunning, with westward views of Ruapehu, Ngauruhoe and Tongariro and the central Kaimanawa Forest Park to the east. If you haven't experienced the steep Umukarikari climb before it is suggested that you trek from Urchin to Umukarikari.

The track between Urchin and Umukarikari was in existence many years ago but had been left to become overgrown following cyclones Bernie in 1982 and then Bola in 1988 which caused massive amounts of tree damage along the range. Tramping club members from Taupo and Rotorua helped open the track, and without this community assistance the task may have taken some time longer to complete.

As a long one day hike, it is also a challenging alternative to the Tongariro Alpine Crossing.

In addition a route has been marked from the upper Waipakihi valley just below Waipakihi Hut up onto the tops leading eastwards to Middle Range. For more experienced trampers and hunters it provides a way into and out of the more remote central Kaimanawa.

Staff have also been busy building new decks off Waipakihi Hut and Rangipo Hut, where the deck has been designed to also act as a landing and tidy storage area for bags of firewood rather than having these scattered about the rocks and tussocks in front of the hut. Rangipo has also had an upgrade of its water supply and plumbing.

It was also the fourth summer of major track upgrade work on the Ketetahi side of the Tongariro Alpine Crossing.

This year contractors and staff completed about 1400 metres of track reconstruction just above and below the bushline. Staff also installed a new 60m boardwalk lower down towards the carpark where the track is often washed away by flooding.

Biodiversity

The South Taupo wetland project has been a large focus this year for the biodiversity team (see Lucy Roberts's story in this edition).

The team have also been involved with Tongariro Natural History Society in the restoration of Rotopounamu bird species through rat & stoat control.

Te Papa Mire, a unique "ephemeral" wetland in the Rangitaiki Conservation Area, has had the benefit of the development of a new relationship with Eastern Fish & Game in helping bring the message to shooters of the existence of some of New Zealand's rarest native wetland plants. This will hopefully help provide better protection for the restoration work being carried out to return these plants back from the "brink of extinction".

Pinus contorta invades eastern Kaimanawa Forest Park faces

Pinus contorta, spreading from the Kaweka ranges across the private unoccupied lands, has arrived and established in the Mangamaire valley, where the Kaimanawa Forest Park (KFP) borders the true right of the Mangamaire River.

A joint initiative with the Department of Conservation Kaweka and Environment Hawke's Bay to manage the Contorta issue on the Kaweka side and DOC Turangi Taupo Area with Environment Horizons on the Kaimanawa side is in hand with all agencies doing their bit before the local Contorta establishment takes off and becomes a major task similar to the issues that existed in areas around Karioi Forest. Horizons have taken a further initiative to make Contorta a total control plant requiring every land owner/manager to control it on their land making it a statutory requirement.

Contorta is an interesting plant, establishing quickly on bare ground. In the case of the eastern KFP area it likes to establish on bare rock faces where a good head for heights and nimble footing is required for those that are landed by helicopter for ground control treatment. When the issue of safety is too great then it's on with the human sling load team anchored by flying chain underneath the helicopter. Often having to stay on the chain, balance themselves against the rock face and cautiously cut the tree. There are high level risks in this work with team members being trained on safe ground before entry to difficult sites. In the case of the human sling load team a training and certification process is required annually to prove competence for this type of work.

The important thing that we can say is that in our Area we know that we can win the game of Contorta control, with the "light at the end of the tunnel" not too far off.

The Future

Waihohonu Hut Replacement and track upgrade

Design work for a new hut at Waihohonu in Tongariro National Park has been progressing with architects Pynenburg and Collins from Wellington. These architects have been working with the department for some years providing a set of standard hut designs. The department's hut procurement manual however allows for a Great Walk hut to have an individual design that reflects its particular location and use, therefore the architects and staff has been attempting to bring together something that fits the chosen site. Factors such as views of Ngauruhoe and Ruapehu, proximity to the Waihohonu Stream, maximisation of sunshine for passive heating and energy efficiency, sustainable building materials and ongoing maintenance costs are all being balanced up. Construction is expected to be this coming summer season.

The new site is on the true right of the stream directly opposite the existing tramping hut. The riverside camping site will be retained because it is so popular and different to other parts of the Tongariro Northern Circuit. The tracks will need to be juggled to fit the overall site, with it being a junction of four tracks.

The Waihohonu area will be a busy part of the park next summer with the new hut construction and further upgrade work on the track towards Tama Saddle. This will focus on fixing the very worst impacted sections of the track with boardwalks and newly formed metal track and steps.

Below: At the beginning of last century travellers made a rest stop at Waihohonu Hut during the arduous coach journey from Wanganui to Taupo. Photo: Alexander Turnbull Library



Interns work with TNHS

In 2008 the World Wildlife Fund awarded the Tongariro Natural History Society (TNHS) a grant allowing us to employ two students studying Wildlife Conservation and Management at Massey University, for three months between November and February 2009. A major society sponsor, Land Rover, provided further support to this project and gave us enough funds to employ a third student. As a result we were able to offer summer internships to Andrew Blayney, Shelley Myers and Joanna Nash.

Under the supervision of a Biodiversity Project Coordinator, the student interns have led the work-programme for this field season at Rotopounamu, implementing rodent control and monitoring of bird, insect and plant species in response, as well as trapping other mammalian pest species and engaging the many visitors to the site and explaining the project.

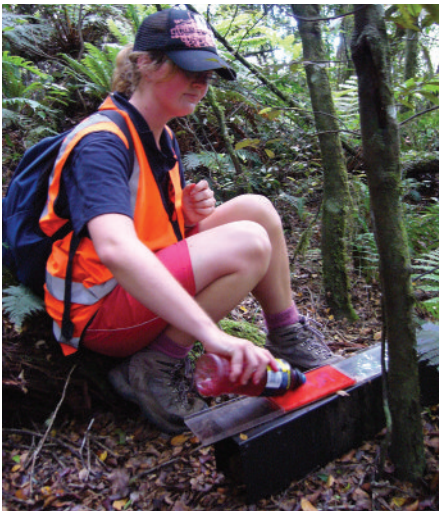
In addition the interns have been involved in other important projects including the restoration of the South Taupo wetlands through the control of European willow, and the historic Hapuawhenua viaduct near Ohakune, besides many other smaller projects.

The impetus of a partnership with Massey University was a concern that skills in conservation and ecology are heading overseas, while here was a perfect opportunity to involve young New Zealanders engaged in tertiary education with New Zealand conservation, learning practical skills and field knowledge that would complement their studies. The shape of the internship was developed in discussion with Dr Jill Rapson, a lecturer in ecology at Massey University and she informed students on the opportunity with TNHS.

Previously, TNHS has taken full-time international volunteers during the summer season, but there is a lack of continuity in their involvement beyond a few months. It is hoped that the student interns will continue to be involved and interested in the Society and its work beyond the internship.

Interviewed at the end of their contract, the three interns said that their experience had been extremely positive, stating the practical experience gained, observation of how TNHS and DOC operate, interaction with TNHS members and earning a wage as some of the most rewarding aspects of the role.

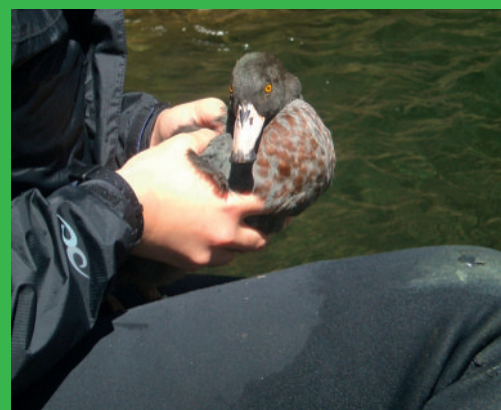
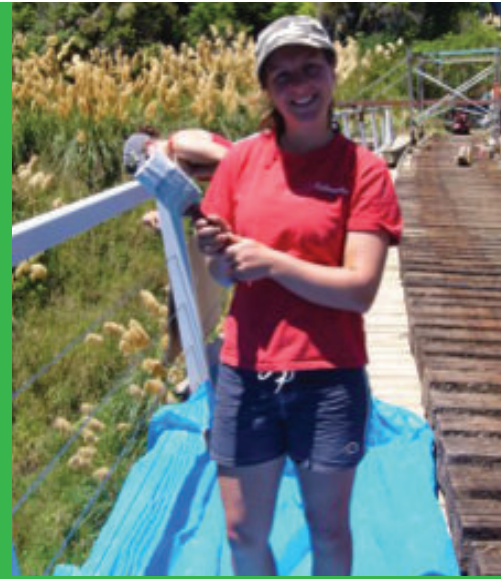
The employment of student interns has been a great success and benefited all involved. We would like to offer the same opportunity for the 2009/10 season to two students from New Zealand universities, continuing to involve undergraduates studying ecological science in the future of their country.



Top to bottom: Andrew working in the nursery; Putting out rat bait at Rotopounamu; Setting tracking tunnels
All photos: TNHS



Hands up if you want to make a difference



Hands up - if you want to be part of a active group that for more than 23 years has lent a helping hand to Tongariro National Park and other conservation areas.

Hands up - if you like helping conserve our heritage in a practical fashion

Hands down - onto paper or keyboard if you want to know more

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