



Notes from FOMLI Ranger

Sanctuaries of New Zealand Workshop Havelock North : August 2009

We were fortunate to be able to attend the 2009 Sanctuaries workshop, held in the Hawkes Bay. This is a gathering of people from various Sanctuaries around New Zealand, with the aim of sharing ideas, networking and updating on the latest research. All sorts of groups are represented, mostly community driven, but also many with local body and government (eg DOC) inputs as well. It is always very inspiring and motivating to see all the great conservation work going on around the country, much of it initiated and carried out by volunteers. Check out the Sanctuaries website at www.sanctuariesnz.org many of the papers are presented there. Below are brief notes on some of the papers presented at the workshop.

John Innes: John works for Landcare Research who has organized these workshops for the last 5-6 years. John gave an overview of the sanctuaries network. They have 41 sanctuaries registered with Sanctuaries of NZ, representing 63,000 ha of pest-controlled land (compared with 36,000 ha of pest-free islands). 88% of this land is in public ownership and it represents 0.2% of the total land area of New Zealand.

DoC: is currently working on national conservation prioritization strategies, looking at prioritizing both sites of significance (including waters of national importance) and species of significance. The strategies will take into account costs involved and achievable outcomes. This is looking at national as opposed to community objectives.

Fenced and unfenced sanctuaries cannot significantly increase NZ's biodiversity without a vast increase in scale. Currently they lack a logical national context. Both will need dollars forever! Both face uncertainties and both are experimental in nature at the present time. Both types of sanctuaries share some of the same challenges and have some unique challenges. There are opportunities for coordination.

Weta Monitoring,: Corinne Watts, LC Research. Corinne presented some work she has been carrying out on monitoring weta. She is using tracking tunnels and has found that they are good monitoring tools for even arboreal species, such as wetapunga. They love peanut butter and will have weta parties when the tunnels are baited with this - footprints everywhere! She carried out measurements of weta footprints and could easily separate adult wetapunga footprints from juvenile wetapunga and adult tree weta (the latter 2 are a similar size). She also used the tracking tunnels to track dispersal from a translocation release site.

Northern Rata Restoration: Bruce Burns, Auckland Uni. Northern rata were once widespread throughout NZ. There have been massive die back events from 1930 to 1950, due in the main to possums which find rata highly palatable and thus will selectively eat them. Rata will recover in the absence of possums. Trial work is currently underway looking at preferred host trees (rimu, puriri, hinua and dead trees preferred) and the best methods of getting young rata established on their host plants.

Mice on Saddle Island: Jamie MacKay, Auckland Uni. For us this was one of the most interesting papers given the periodic mouse blips we experience here on the island. On a national scale, 38% of mouse eradication attempts have failed, compared with only 6% of rat eradication attempts. Jamie is carrying out his study on Saddle Island off Mahurangi, a 6 ha forested island from which rats have been eradicated.

Jamie studied the mice pre and post eradication. Before eradication mice were present on the island at a density of approximately 18/ha (cf recorded densities in the absence of other predators of up to 156 mice/ ha). He found that the mice on his island moved on average 26 metres from their home base. He also noted that mouse densities varied with the habitat and that where densities were higher movements were over smaller areas.

Eradication of the mice was carried out using traps and poison on a 25 m grid (the same bait station spacing we have on the island). 51 mice were trapped. An estimate of the numbers of mice present before the eradication indicated 53 – 54 mice in total, ie only 2-3 left. After eradication however, tracking tunnel detections indicated that there were still 5-6 mice left on the island, assuming that the mice were only moving 26 metres. With the reduced mouse density were the remnant individuals moving over greater distances??

To test this Jamie released mice with radio tracking devices on, (note this was in winter, there may be seasonal differences in behaviour). He found that these released mice moved over larger distances and in fact, moved quite rapidly in a big loop around the whole island, 600 metres from one end to the other. They moved up to 25 metres in one night. Jamie found that all the released mice were detected in his tracking tunnels and he was also able to trap them all at the end (even though they were wild mice he had already trapped at Tawharanui).

There were some reassuring things we took from Jamie's talk. The first was that our 25 x 25m grid should easily be encountered by any mice arriving/remaining on the island, thus it is unlikely in the presence of this grid that we will experience a population boom. This wide dispersal of mice at low population numbers also makes it more likely that our mouse detections are from invaders, as remnant individuals would quickly encounter bait stations. Unless there were bait shy individuals, eradication should be possible on a 25 x 25m grid.

Jamie's work is ongoing, we will watch this space with interest!!

There has been some interesting discussion regarding mice via the Sanctuaries forum since the workshop. There have been some mouse detections on Pomona Island, where there had been none for a period of 8 months following eradication – sounds familiar!! This island is on a lake a similar distance from the mainland to us. The usual question has come up – is it a remnant population or an incursion? To fully answer this some detailed research would be needed, However it seems that swimmers would be a possibility. Strongly swimming mice have been seen 300m from the mainland. These pest critters always find new ways to test us!

Hedgehogs: Chris Jones, LC Research. The main theme of this talk was 'don't overlook hedgehogs as predators!' Hedgehogs seem to do well in NZ, they have no significant predators (eaten by badgers in Europe), and have a low parasite burden in NZ.

Hedgehogs eat invertebrates and also other fauna. Lizards can be a significant part of the diet. Female hedgehogs have been found to eat 3 x the number of lizards that males do, possibly due to different hunting focus with the demands of pregnancy. In the UK hedgehogs have been found to predate shorebird nests. One gut study found 280 weta legs, i.e. the hedgehog had eaten at least 70 weta in one night! An anecdotal report was given of finding a hedgehog attempting to kill a chicken – it was hanging onto the neck and not letting go!

Individual hedgehogs may not be much of a threat but there can be a lot of them. At Macraes Flat they have trapped approx 900 cats, 770 ferrets, 57 stoats, 190 rats and 1900 hedgehogs!

Project Visits

Cape Kidnappers

On the last afternoon we went on a tour of the Cape Kidnappers Wildlife Preserve. We have both been to CK before and Cathy helped them get started with their petrel trans-location last year. In addition to GFP, the project has trans-located NI robins, rifleman, NI brown kiwi, whitehead, tomtit, and brown teal – a busy place.

It is a large peninsula with a private restoration project underway enclosed by a predator proof fence. The majority of the land incorporates 3 commercial farms and the restoration project must fit in with that. John McLennan discussed the fence and the philosophy behind the project management.



They accept that the fence is inherently leaky – the fence is open ended with the potential for predators to move freely around the ends and significant bio security risk associated with the farm and the golf course operations. Also because of the large farming operations the fence encloses, destocking to allow for complete eradication was not possible. The fence is therefore seen as one in a range of tools used to control predator numbers. The fence mesh will keep out rats but is not small enough to eliminate mice. Trapping and baiting are used to complement the work of the fence to keep predator levels down to low numbers.

Within NZ the gold standard for biodiversity is found on offshore islands where all predators have been eradicated (closed predator proof fenced mainland islands potentially could be similar – time will tell). DoC mainland islands with intensive predator control provide the second level of biodiversity. The Cape K project sits somewhere between the two.

Young Nick's Head

While at the workshop we met Steve Sawyer and Patsy Matthews of Ecoworks New Zealand based in Gisborne. Ecoworks manages the predator proof fence, which has been erected within Young Nicks Head Station near Gisborne. The station is privately owned and in addition to the PPF extensive restoration work is being carried out on the station. 147 ha has been covenanted under QEII and large areas of the coastline have been fenced off and planted, 250,000 plants so far. In addition a 40 ha wetland is being developed – huge!



Patsy kindly showed us around the PPF area, which encloses 35 ha at the headland. This area was planted out 2-3 years ago and the trees are growing well especially in the more sheltered gullies. They are now carrying out species restoration within the fence. Last year they purchased gannet decoys and set them up on the headland with a sound system. In this first year they had up to 250 gannets land and display breeding and nesting behaviour – awesome! One female appeared to sit on a nest but no eggs were found. Presumably the birds were all young adults, possibly some from Cape Kidnappers. Apparently one decoy, in particular, was very popular with the boys and was looking a bit the worse for wear by the end of the season.

Just above the gannet 'colony' they have set up a grey-faced petrel site with a sound system playing every night and artificial burrows. They went up at night 3 times to see if they could call petrels in by whooping (human calls mimicking GFP calls). On the third night they struck gold and 40 petrels came in and landed. Petrels showed a lot of interest in their site with birds nesting and at the end of the season they had 2 chicks fledge. The site on a headland sticking out into the Pacific Ocean obviously helps a lot – as Pete said, 'location, location, location'. We were very interested to see their home-built burrow scope which allows you to look into the burrow without going in through the top of the chamber and disturbing nesting birds.

The other thing we checked out was their gecko homes. They attach these plywood boxes to a likely tree, with folded Onduline inside. The geckos love them – in one box we found 15 geckos of all sizes, from a tiny juvenile up to adults. In this way they found remnant common gecko populations in the old cabbage trees on the station out in the middle of the grazed pastures. The geckos were living in the flaky material inside the hollowed out trees. We think these boxes show a lot of promise as a gecko refuges and monitoring devices, and may be helpful in capturing some of the species we hope to bring to the island.

