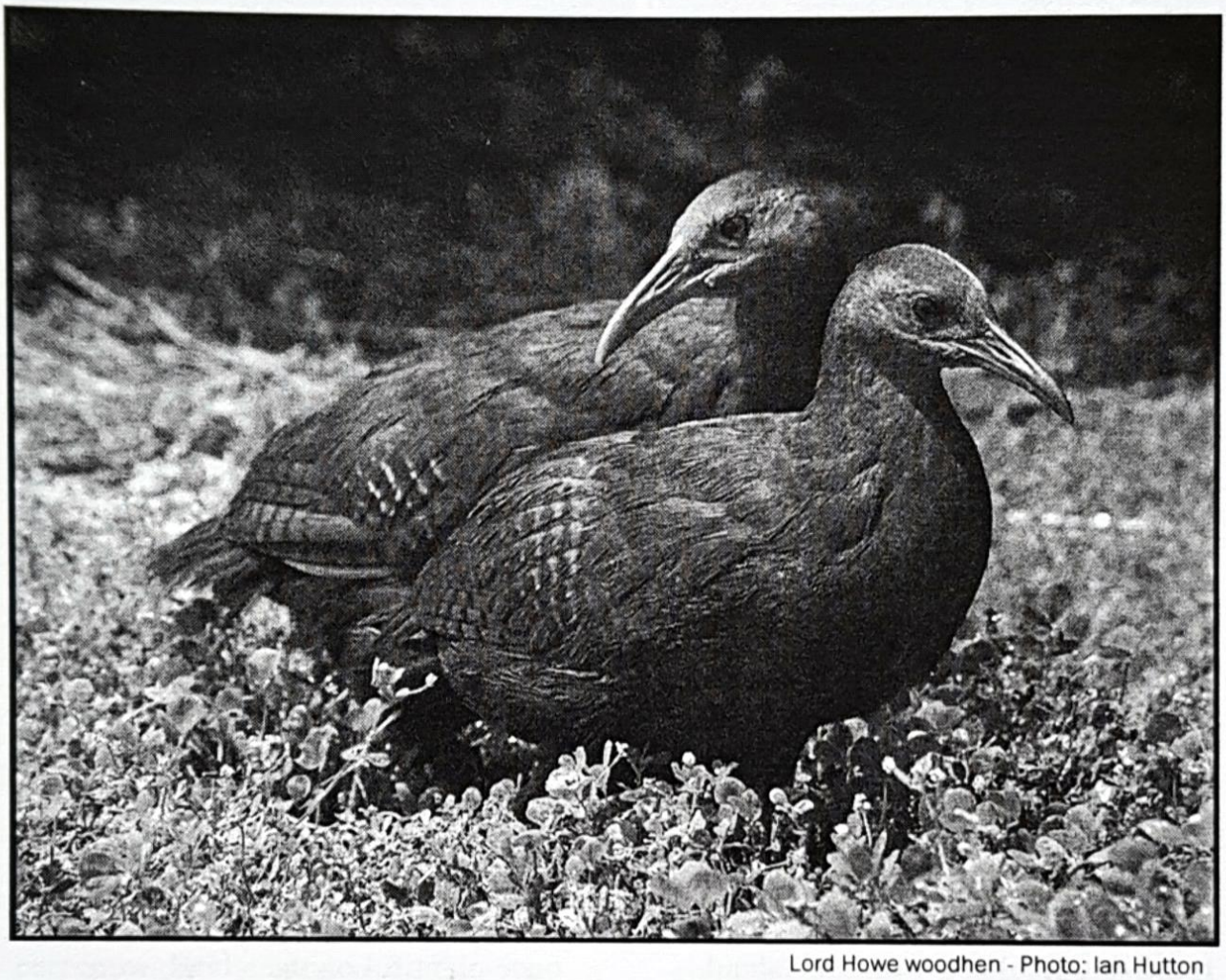
Issue 3
Winter 2005

RD1 Great Barrier Island, Ph: (09) 4290 414

GBI Environmental News

The publication of the Great Barrier Island Charitable Trust, whose trustees are:
John Ogden (Chair), Tony Bouzaid, Jude Gilbert, David Speir, Liz Westbrooke,
Fenella Christian (Secretary)



Lord Howe woodhen - Photo: Ian Hutton

Profile: Lord Howe & Magnetic Islands Predators — Introducing your Own Rat Trapping Analysed at Windy Hill

Mission Statement: To sustain and restore the cultural and natural environment of Great Barrier Island in order to enhance the native biodiversity and foster the socio-economic well-being of the people.

Lord Howe Island leading the way

If the community embraces the idea of a predator free island, the Great Barrier Island economy will benefit from a unique eco-tourism opportunity as the restoration of the biological diversity of the native flora and fauna becomes nationally and internationally recognised.

Perhaps the island could follow the proactive conservation stance taken by Lord Howe Island with its World Heritage status. They have now eliminated pigs, goats and feral cats and are currently planning total rat eradication. Domestic cats must be neutered and no new cats brought in. Visitors are limited to 400 at one time.

Just 11 by 2.5 km, Lord Howe has the same spectacular scenery that we see here and although politically Australian, it is biologically more closely allied to New Zealand (1000m beneath the surface both Norfolk and Lord Howe are part of the sunken continent of Zealandia). However it has lost almost all its endemic birds.

The following article is from Ian Hutton, a naturalist working there and explains more about their projects.....

In 1979, as part of a program to rescue the Wooden (a small flightless bird about the size of a Weka) the Lord Howe Island Board completed a project of trapping and removing feral cats from the Island. In 1982 the Board placed a ban on domestic cats as pets, with a grandfather clause whereby people who had pets could keep them if desexed, but no more to come onto the Island, and they have gradually all disappeared.

This, plus removal of feral pigs and control of dogs has made it possible for the numbers of the Woodhen to recover from 20 to around 250, and they are living within the settlement area. Not only has this made the Island a safe environment for the Woodhen, but other birds have greatly benefited. Little shearwaters, once plentiful on the island, were forced off by cats a century ago, but have now started breeding back on the main island again. Other seabird numbers have increased on the Island - Sooty terns and Wedge-tailed shearwaters are breeding in bigger numbers each year. Seabirds are one of the major tourist draw cards to Lord Howe Island.

In 2000 the New Zealand company Prohunt were contracted to remove

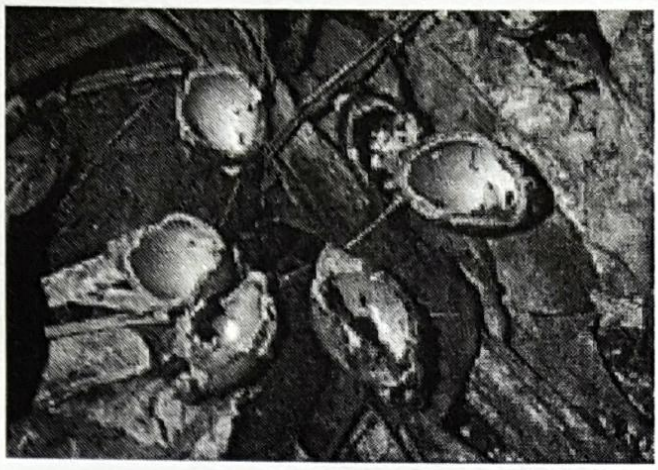


Photo: Ian Hutton

Palm seed hulls. Rat foraging has a significant effect on the economics of the island palm industry.

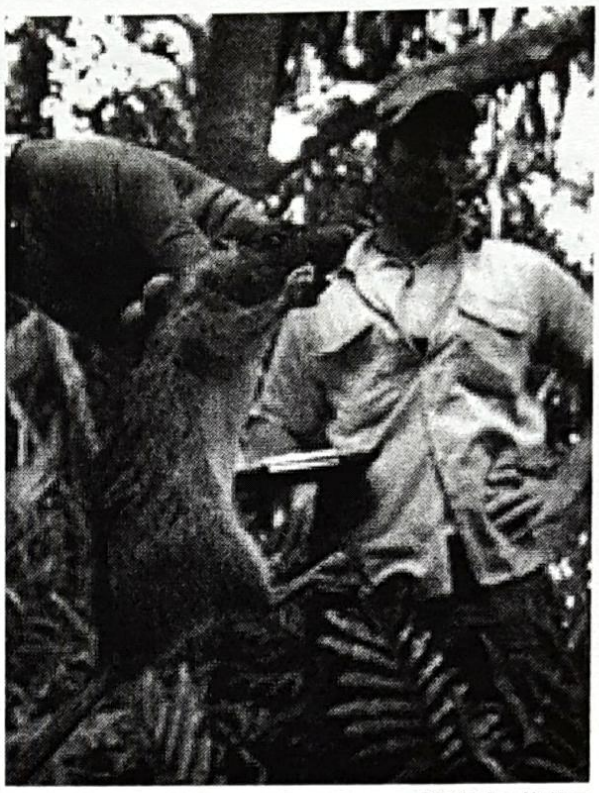


Photo: Ian Hutton

Rats are next on the list of introduced predators targetted for eradication.

feral goats from the Island and now all that remains in terms of introduced animal pests are rats and mice. The Lord Howe administration and the community are aware of the social, economic and environmental costs of these pests and have had New Zealand experts do a feasibility study to investigate the possibility of rodent eradication. The Board is currently liaising with organisations in New Zealand with the view to trialing a rat specific poison being developed. If this new technology is successful, it would remove the potential non target species impacts associated with current traditional rodent eradication operations.

The cost benefits to the community would be a huge saving in poison program costs, an increase in revenue for the island palm industry, no loss of vegetable and fruit crops, and elimination of health risks associated with rodents.

The environmental benefits would be even greater — rats would not be eating seeds, stems and roots of native plants; seabird and landbird numbers would increase; the native gecko and skink would increase from rare to abundant, and numbers of endangered invertebrate animals such as snails would increase. Also there are several invertebrates that rats have removed completely from the main island and only survive on offshore islets; when rodents are eradicated these can be brought back to the main island.

Proposals to remove cats and goats was a little bit controversial with some sectors of the community, but now everyone can see the huge benefit of these moves. No one would argue with the benefits of removing rodents, so hopefully, with help from the Kiwis, Lord Howe Island will soon become a haven totally free of introduced animal pests.

Editorial • by David Speir

WE LIVE IN A NATURAL world, dependent upon it for air, water and food. This is true whether our sustenance comes from the kitchen garden or the super-market.

Early settlers on GBI found a forested land, trees in excess, and seemingly unlimited marine bounty. A natural world in which they were their own masters. Survival was predicated on exploiting naturally occuring resources.

A look back in Aotea's history shows a pattern of demand followed by extraction followed by depletion - tall timber, gold, copper, whaling, cray and fin fishing. Profits from these activities mostly went elsewhere. Farming the marginal land on Aotea produced diminishing returns as fertility declined.

Even when it is apparent that a process is failing we are naturally resistant to change - repetition of the old ways is the easier track to follow.

New ideas require new grooves to be cut - not always a comfortable process. And it is easier to oppose change than be open to new outcomes.

Conservation in its essence offers new outcomes. However the word has become a loaded term - conjuring up images of high-handed Government actions and regulations seemingly insensitive to the smaller scale of life;

Yet by definition conservation is basically careful use of self-renewing or in fact self-managing resources. Conservation equals custody, husbandry, protection, safe-guarding, economy. In our case the ecosystems we are looking to conservatively manage require considerable repair.

Restoration comes before conservation. Its coalface ethos deals first with the principal agents of abuse.

On GBI landmass humans no longer occupy that position, that belongs to the introduced mamalian predators. Rats, feral cats, rabbits and pigs continue to impact on endemic species.

As the land of the old Great Barrier sells, it does so at a price that inevitably brings in new blood - new values, new notions of what the responsibilities are of holding land with high natural vlaues.

Change is in the air - more than 60% of private land on GBI is now held in offshore hands. The view looking in is quite different from ours looking out. Many are recog-nising what we have here - a potential island ark.

Do we have self-sustaining resources that could be used rather than abused; nutured into resilient health and managed for the economic and social benefit of the Island residents. We think so.

In an endeavour to gain inspiration from what others have achieved faced with similar situations, this edition of GBI Environmental News looks outward from our Island at conservation initiatives nationally and conservation successes on other islands.

REPORT TO THE BOARD by Tony Bouzaid

Magnetic Island Manages its Moggy's

In August I spent a week's holiday on Magnetic Island off Townsville on the Queensland coast. This provided the opportunity to look at the results of the Cat Management Plan introduced there in 1997 subsequent to a survey conducted in 1995.

The principal ingredients of the Plan were;

- Council funded an initial microchip implantation of all domestic cats on the island. [While this was not compulsory any cat caught without identification would be considered a stray and put down]
- Residents were supplied with cat traps on demand for trapping on their own properties
- Council began an intensive trapping regime on land owned or administered by them, particularly the refuse tips
- All domestic cats to be spayed other wise if caught will be culled

At the same time the National Parks staff started trapping along the tracks in the National Park which makes up 70% of this 5,000-hectare island.

In March 1999 the Townsville City Council conducted a follow up survey on the attitudes of the residents after the Plan had been in place for 2 1/2 years. This subsequently became the subject of a paper presented at the Urban Animal Management National Conference on the Gold Coast in August 1999. I have had the opportunity to review the paper, survey and analysis but have had to write to the CEO of the Council for permission to obtain and utilise the report.

The results over the four years have been spectacular. In the whole week I was on the island I only saw one cat and that was on a resident's property during the day. The demand for resident's cat traps has decreased to almost zero and apart from a constant presence at the refuse tips the Council and National Park only trap as a result of sightings or cat sign.

The report highlights a growing problem with domestic dogs, particularly for ground nesting birds. As a result of this and the work carried out by DOC on Great Barrier illustrating the same problem it is important to incorporate dogs into the survey so that it is not specific to cats. Working backward from the 1999 Magnetic Island survey will ensure that our first survey asks the right questions. This way when a follow up survey is conducted there will be comparative information for analysis. Enlarging the parameters of the survey to include questions concerning dogs will provide a good sense for attitudes of the Great Barrier public. As a result of the change it will be appropriate to leave the suggested changes to the dog by-law until the results of the survey are available.

Introducing our own predators

Native to Africa and Eurasia and the intermittently connected Americas, cats and dogs are alien species in Australasian and island eco-systems. In New Zealand when we choose to live with these com-panion predators, they will inevitably prey upon the native wildlife.

What wildlife, you may ask, as you shift into an established suburb? Indeed, to provide for our lifestyle we have usually so altered the natural environment that most of the native plants and animals have been removed. The domestic cat and dog is often the only link to the animal world left to a city dweller.

But coming here to GBI you are entering a world of both old and new: houses sit alongside complex habitats — stream margins or dune systems — where small populations of birds and reptiles have existed for centuries; lifestyle blocks sit amoungst old growth forest and cottages near rocky shorelines. Because GBI has avoided some of the deadliest introduced predators we have remnant poulations of threatened ducks, ground and shore birds, reptiles and invertebrates in these very habitats — vulnerable to these aliens

As this new wave of city workers, striving to re-establish links with the natural environment, emigrates to locations with natural character, there is an irony in the demand for these sites and the subsequent, unwitting degradation of this character by those who pay so much for it.

Under the Resource Management Act, some district plans now seek to prevent scorched earth development by prohibiting the clearing of remnant stands of native trees, wetlands and estuarine fringes. This is a great step forward. But none of the plans have yet addressed the issue of protecting the inhabitants of that vegetation — the wildlife itself — from this continuing colonisation. With every new household there is an implicit permit to bring in cats and dogs that kill native fauna, and to introduce garden plants capable of invading native vegetation and reducing its value for wildlife.

It is a bold new mind set to suggest that, in some communities, people might live in greater harmony with nature without the ubiquitous cat and dog.

GBI does not have to look further from NZ for examples of conservative governance with regard to introduced pets.

There have been recent planning decisions controlling or banning pets where new subdivisions are adjacent to ecologically sensitive areas or to populations of threatened native species,

Wellington City Council, already firmly established on the world-wide conservation map with the

Karori Sanctuary, has allowed a 104 unit subdivision on the old railway settlement land at Kaiwharawhara with a cat-free provision. This zone of regenerating bush is an important bird corridor into the city from the north and by designating this subdivision cat-free the council has recognised both the importance of the avenue and the ability of domestic cats to wreck havoc on the native bird populations moving through and residing in the area.

Evidence for this stance came from an 84 day trial run jointly by Forest & Bird and DOC to find out what Wellington cats kill. The trial showed the average domestic cat killing at least 8 birds per year and only two rats. Given the numbers of cats this predation has a devastating effect on our slower breeding native birds.

A wildlife friendly covenant on the Opara Estate subdivision in Northland not only protects the area from invasion by domestic pets but actually defines the kind of person who buys into the area. This kind of protection will in time add value to the land as protection of this kind is more sought after by prospective buyers.

Development of a subdivision on a peninsular of land surrounded by saltmarsh and mangroves near Athenree in the western Bay of Plenty is conditional upon a domestic cat and dog ban proposed by Forest & Bird and supported by the District Council. The developer is currently appealing the ban in the Courts.

At present on GBI we have no eco-subdivisions of this type, and attitudes to wandering domestic animals vary considerably between communities on Aotea.

The Petscan 2000 survey provided some idea of local opinion. The professionally analysed findings indicated:

1. Support for both cat and dog management plans
2. Nearly half had experienced problems with wandering dogs
3. Pet cats were acknowledged as roaming bird killers but valued for their perceived ratting abilities.
4. Many residents experienced rat damage to property and environment.

Although it is obviously easier to define pet ownership conditions from the outset (for example in a newly formed subdivision) there is considerable sympathy for the concept here. There is obviously a significant section of the GBI community for whom conservation value is a major factor in their residence. It is also acknowledged the role domestic pets play as social companions in isolated situations.

Aotea is under scrutiny as it is scoped for possible kiwi introduction, further introduction of threatened species and possible predator eradication in the future.

The issue of domestic pets is clearly in the spotlight.

Edited by David Speir with extracts from Forest & Bird's: "Eco-Subdivisions - Living without cats and dogs".

An analysis of rat trapping results on Little Windy Hill

by John Ogden

The Windy Hill Rosalie Bay Catchment Trust (WHRBCT) has recently completed an analysis of their rodent trapping programme[1], which was started in 1999 and has increased in effort every year since then. The analysis also includes comparisons with results from Benthorn Farm (BT), Awana (Awana Catchment Trust) and Okiwi (DoC data). The results are sobering.

The most intensive effort has been at Windy Hill and Benthorn farm, where in 2004 c.1800 traps caught c. 3400 rodents over c. 260 ha. That represents c. 13 rats per ha per year. We hope this apparently low catch rate is because numbers have already been reduced by five years of trapping. This is probably so: Fig 1 shows that the initial trapping at Windy Hill (1999) had higher catch rates, while Fig 2 suggests that current catch rates at Windy Hill are significantly lower than in equivalent vegetation types at Awana. Unfortunately there is uncertainty in both comparisons, because different numbers of traps were used over different periods. All the results show the same seasonal pattern for ship rats, with a peak in March/April and a low in the late winter (Fig 3). It is important to have established the Island-wide generality of this pattern; it proves that changes at any one site are mainly a result of births and deaths, not migration to or from the area. The last few years of intensive trapping at Windy

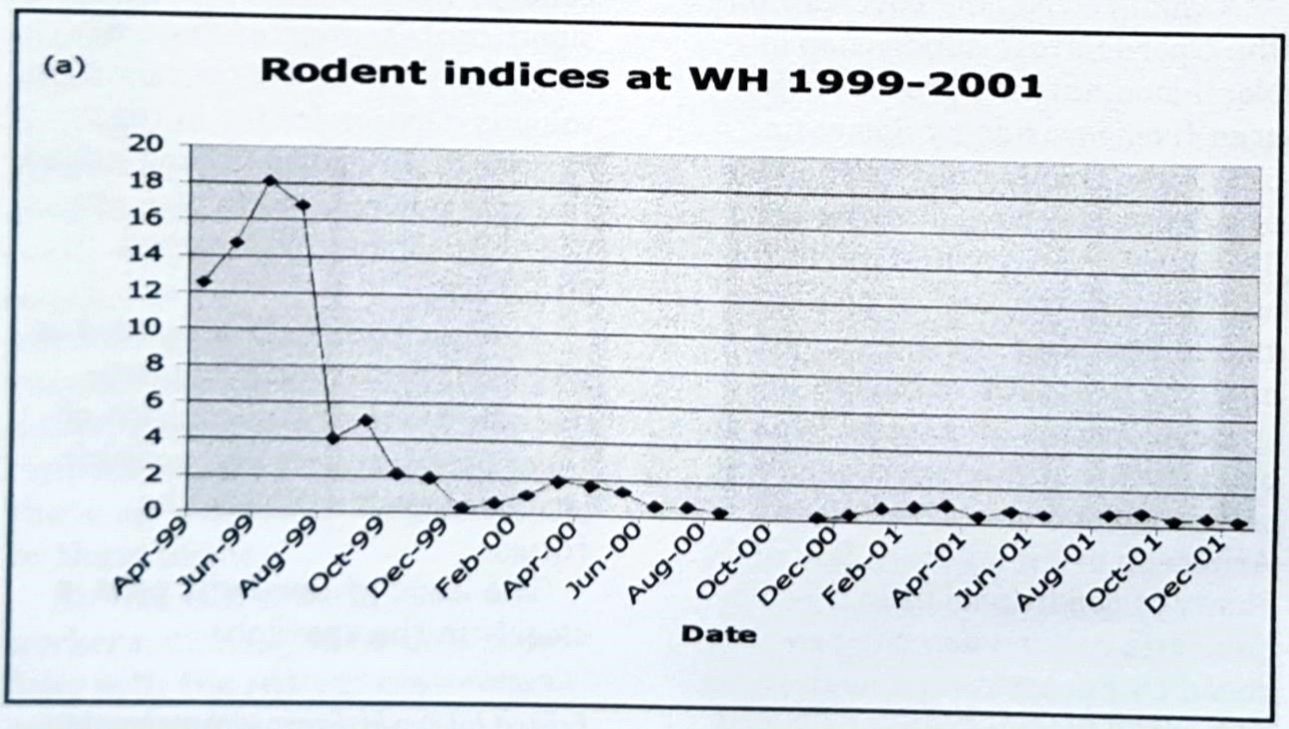


Figure 1. Rodent indices at Windy Hill, showing the initial decline in catch per 100 trap-nights (an index of rat abundance).

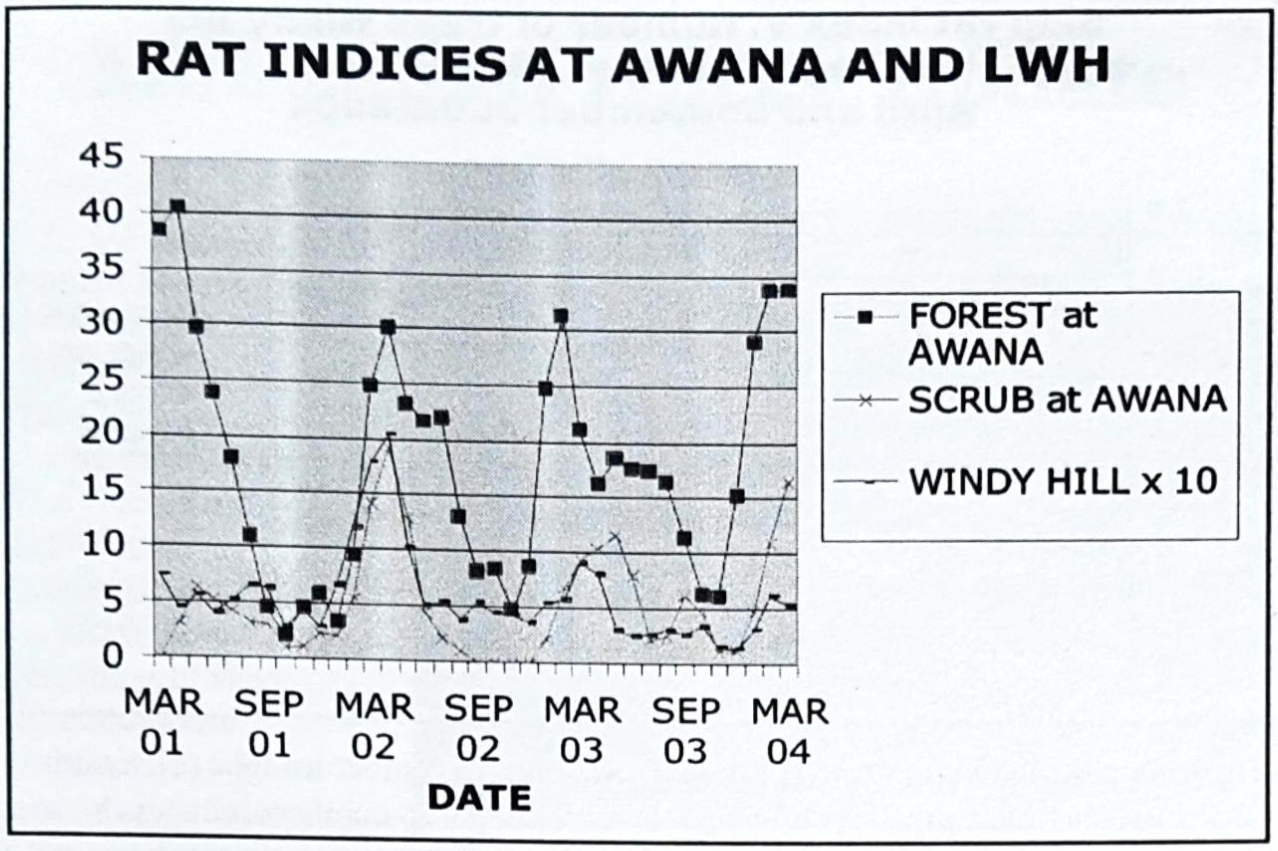


Fig 2 - comparisons between rat abundance in native forest and manuka scrub at Awana, and a mixture of these vegetation types at Windy Hill. Note that the Windy Hill results have been multiplied 10x to get them onto the same scale - ie. there are almost 10x fewer rats in similar vegetation types at Windy Hill.

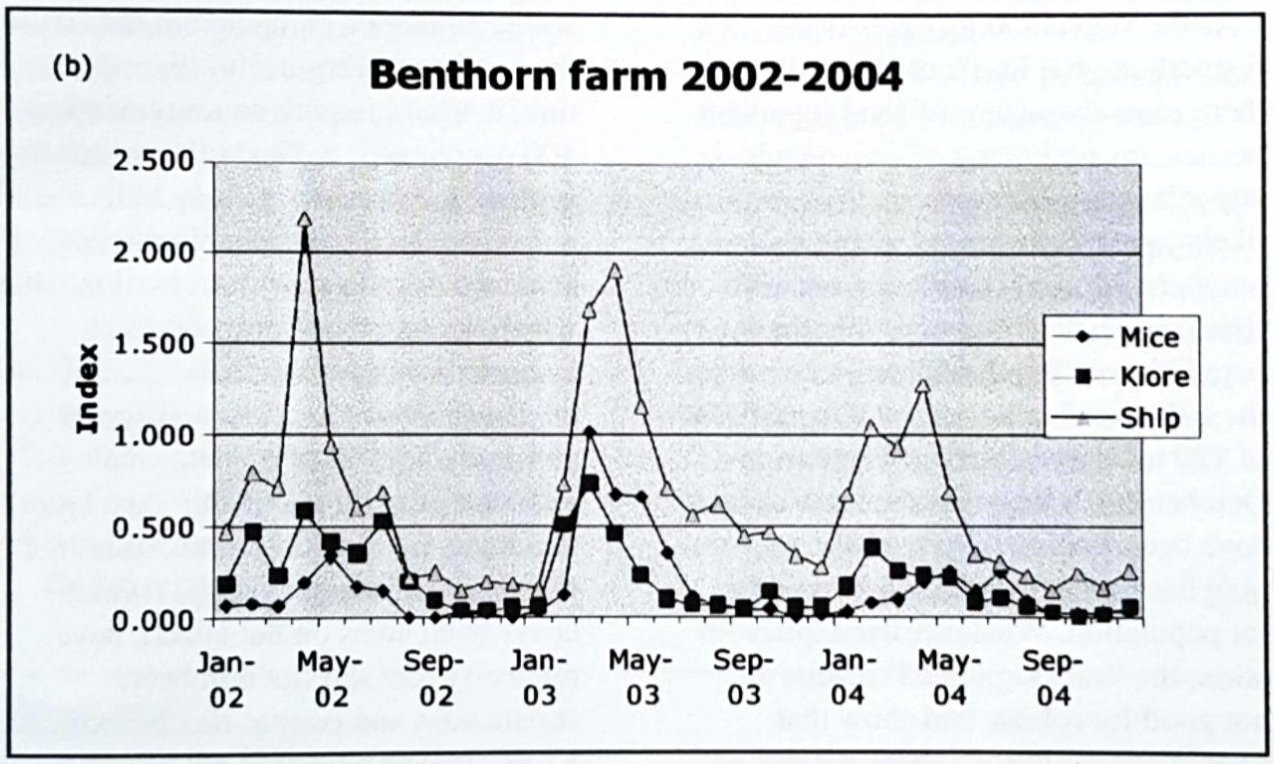


Fig 3. Rodent numbers (catch per 100 trap nights) at Benthorn Farm over 3 years, showing the seasonal pattern and the way the peaks in Kiore and mice numbers generally set off from the peaks in ship rat numbers (a month earlier or later).

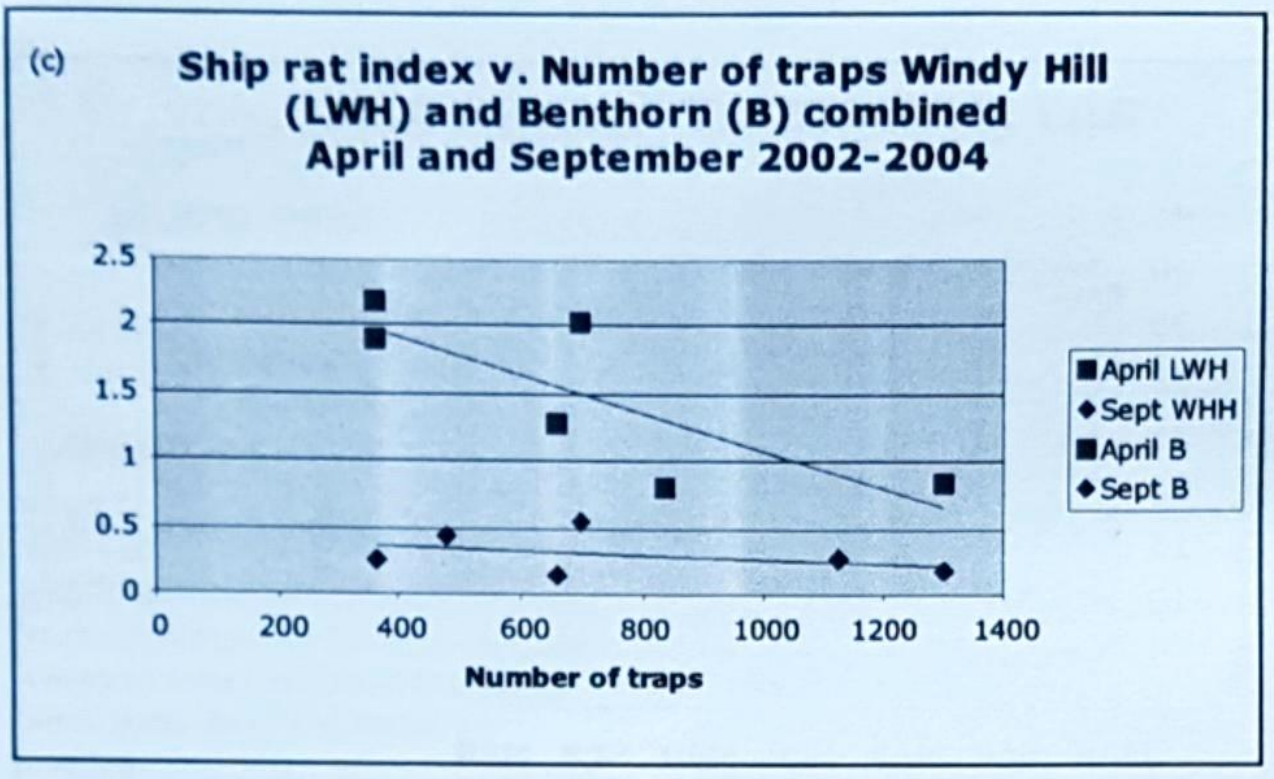


Fig 4. Ship rat indicies at April peak (squares) and September troughs (diamonds) versus number of traps used, showing that increasing trap numbers reduces the late summer peak (slightly) but not the late winter low point.

Hill have apparently reduced the April peak, but the overwintering population remains unchanged (Fig 4).

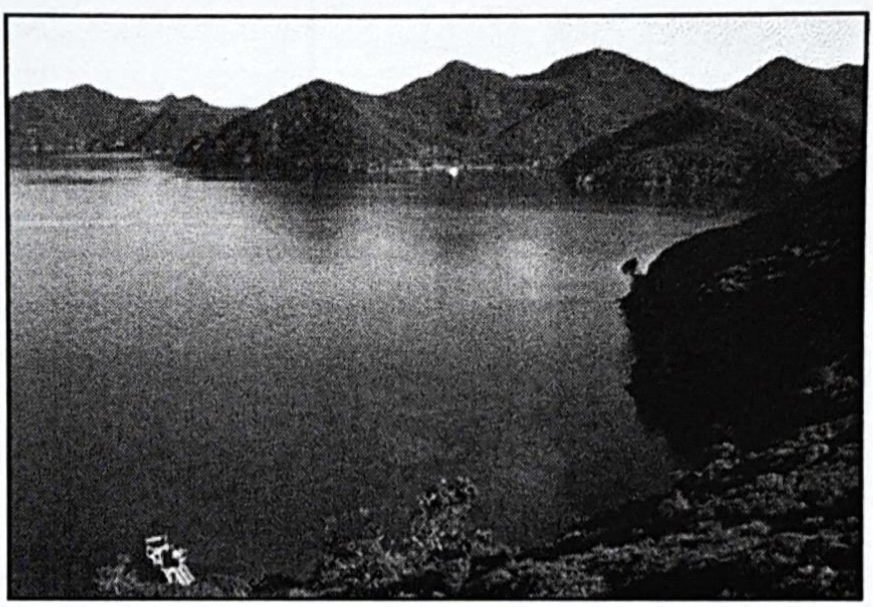
As the vegetation recovers from formerly higher levels of rat predation, there is an abundance of food (eg nikau berries, invertebrates). Consequenly any relaxation of trapping effort is likely to result in a rapid rebound in rat numbers. Moreover, recent work with 'tracking tunnels' suggests that the rat population at Windy Hill is greater than the trapping results suggest. Up to 49% of 120 tunnels were visited by rats in October 2004, when rat numbers should have been minimal. Perhaps the trapping has gradually selected a trap-shy rat population. Whatever the explanation, the 'tracking tunnel' results are not good for robins, and show that trapping alone is unlikely to get rat numbers down sufficiently for ecosystem restoration. Poisons, proven to work in rodent eradication programmes elsewhere in New Zealand, seem to be the only alternative.

From the perspective of an Island-wide eradication campaign in the future the results are very useful. Extrapolating, it would require an army of over 400 people and c. 200,000 traps to achieve the results at Windy Hill overall – results which are probably the best achieved anywhere with traps alone, but which we now know are not good enough. We know too that different vegetation types have very different absolute numbers of rodents, and different proportions of ship rats, kiore and mice. Land Units 8 and 9 (tea-tree on slopes and eroding ridges) which cover wide areas on the Island, have relatively low ship rat numbers; streamsides and coastal flax have most. Kiore are commonest at grassland/scrub boundaries. We know in fact where rodents are and when they are at their

Continued on page 10

Mohunga Project Update

by Colin Griffiths



THE MOHUNGA Project has made some steps toward eliminating predators from the peninsular.

The publication of 'The Ecological Restoration of Mohunga Peninsular' by Wildland Consultants that describes the biodiversity of the area and outlines possible directions toward our goals is an important document upon which wise decisions can be based. It recognises that there are many threatened flora and fauna that would benefit from the total exclusion of predators. The report recommends the most effective way to accomplish this is by means of a predator-proof fence.

A grid of tracking tunnels and bird count sites has been set up covering the range of habitats. This will furnish us with data to help determine the effectiveness of predator control.

Re-opening the old bridle track along the spine of the peninsular has enabled better access to all ridges and spurs. This is a beautiful walk with panoramic vistas of Aotea and the Gulf.

As with any other projects like this, much of the hard grind is carried out by dedicated volunteers. Many hours and much sweat have all ready been spent.

The project now has a 'vehicle' to move forward with in the form of an incorporated society, The Mohunga Restoration Group Inc. This, with charitable status, will make the soliciting of funds easier, we hope.

Dollars make this corner of the World turn too.

From page 9

most vulnerable. We have good indications of 'interactions' between the different species, and can anticipate an increase in mice if the rats are removed. The basic research is not complete, but I believe we now know enough about the enemy to start planning the campaign.

1 Copies available from Judy Gilbert on request.

The **GBI Environmental News** is the publication of the GBI Charitable Trust. Contributions are welcome provided they are supplied as E-Mail or as Microsoft RTF or ASCII files. All material published should be regarded as being protected by copyright legislation and cannot be reproduced without the prior consent of the publisher. The Trust reserves the right to publish and/or edit material and takes no responsibility for errors or ommissions in transcription. Address to gbitrustnews@xtra.co.nz, indicating content of file attachments and providing a contact telephone or E-mail address.

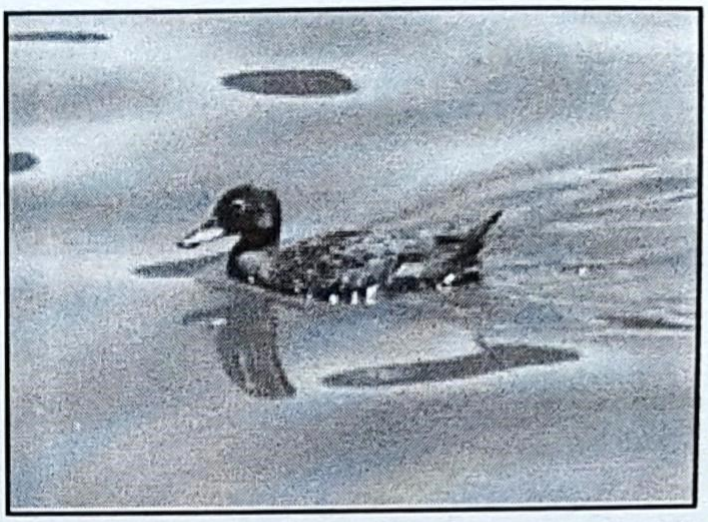


Photo: John Speir

Membership Fees

Ordinary Subscriber: $25.00
Senior Subscriber: $20.00
Family Subscriber; $35.00

Life
Life Subscriber - Senior: $200.00
Life Subscriber ..... $ 250
Corporate Subscriber negotiable

Name: .....
Address: .....
.....
.....
Phone No. **Fax:** .....
Email: .....

Type of Membership:(Please circle relevant type)
Student / Ordinary / Senior / Family / Life (senior) / Life / Corporate

Please post to: Great Barrier Island Charitable Trust
C/- Fenella Christian, R.D.1. Gt. Barrier Island