

# **WHANGAREI DISTRICT**

## **GOAT CONTROL**

### **PROGRAMME**

**Annual report 2010/2011**



Photo courtesy DOC

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## **1 Introduction:**

Wild goats pose a serious threat to conservation, water quality and land use values in the Whangarei region.

In 2009 the Department of Conservation, in conjunction with the Northland Regional Council, the Whangarei District Council, Forestry agencies and landcare groups, developed a programme to reduce wild goat populations so their impacts on the above values are significantly reduced.

This programme was designed to clinically reduce wild goat populations in selected habitats to low residual densities and to maintain these. Eradication is not a primary objective, but in some localised situations may present opportunity.

The Northland Regional Council agreed to fund the initial reduction of wild goat population in key areas within the Whangarei District and it would become the responsibility of the other parties involved to undertake maintenance control.

The following report summarises actions for Pukenui and Mt Tiger and compares results against strategic objectives from the Whangarei RPMS Goat control 5yr Plan [docdm-342424](#) .

## **2 Summary of the Programme to date:**

Pukenui Forest, including adjacent parks, reserves and private land, was chosen as an area to begin the Programme because of its significance as being the largest remaining area of forest in the Whangarei Ecological District. Pukenui Forest also forms a water catchment for the Whau Valley Dam that supplies water to Whangarei City. Pukenui Forest covers approximately 2200 Ha.

The first three months of the Programme included intensive planning and liaison with landowners, establishment of a hunting team, designing a database for all hunting activities, and establishing a “best estimate” of goat populations around Pukenui.

The initial cull of wild goats in Pukenui began in March 2009 and netted a total of 228 goats shot. A follow-up maintenance cull in 2010 netted a further 74 and in 2011 another 41 – a total so far of 343.

Following the success of the recent cull of wild goats in Pukenui Forest, attention was then focused on an area larger than Pukenui to test and demonstrate if the approaches employed would work on a larger scale.

The Northland Regional Council had been recently involved in removing wild goats that were creating problems on their reserve in Mt. Tiger and also neighbouring properties. Council staff were involved in the task of removing the animals. Wild goats were roaming at will between Council lands, DOC Reserves, forestry land and private properties.

A meeting was held between the Northland Regional Council, Department of Conservation, the Whareora-Owhiwa Landcare Group, Hancock Logging and John Craig (Pataua Landcare). The purpose of the meeting was to formulate a plan to continue goat control utilising the contract hunters that culled Pukenui and to extend the treatment area to encompass Parua Bay in the south, Pataua to the east, Whanui, Whareora to the north and west to Waikaraka – a total area of some 10,000 hectares.

All forest, reserves and lands within these boundaries that potentially held wild goats were targeted with the approval of affected landowners. Liaison with landowners began in late April 2010 with 104 properties visited by the contract hunters.

Surveys revealed a variation in goat densities as discussed further below. The area was divided into four hunting blocks. Hunting commenced in June 2010 and concluded in June 2011. A total of 503 goats were killed during this period.

### 3 Objective 1

#### **Significantly reduce wild goat populations in the Whangarei District within 5 years:**

##### **Action**

*Obtain a best estimate of wild goat populations size and range through ground reconnaissance, GPS, and map results of chosen priority areas.*

##### **Results:**

**Pukenui** – the teams first priority was to confirm densities and spread of wild goats throughout the forest using GPS plotting and mapping techniques. Photo points were established and a rough estimate of goat numbers was calculated. It was found that the main concentration of goats were on the eastern faces above the Whau Valley Dam and to a lesser degree, the western and southern faces. A “best estimate” of approximately 300+ goats inhabited Pukenui Forest and surrounding areas.

**Mt. Tiger** – wild goats were found to be scattered throughout the entire treatment area. Mobs of 6-8 animals being most common and the occasional herd of 14-17 were observed. The largest herd counted was 29. The main concentrations of wild goats were on the northern end of the treatment blocks and on the northern faces of Franklin Road. A “best estimate” of goat number in Mt. Tiger at the start of the Programme was between 400-600 animals.

##### **Comment:**

Accurate estimations of wild animal densities in dissected, steep, difficult areas can be a very time consuming and expensive exercise and would require scientific expertise to produce the type of accuracy required for pre and post monitoring results. A “best estimate” is merely a figure that pre-surveys have established and set goals for the hunters to work toward.

##### **Action:**

*Design a database of wild goat populations in the Whangarei District and prioritise reserves and surrounding areas that rank as significant in terms of conservation, water quality and economic values.*

##### **Results:**

Pukenui Forest was chosen as an ideal area to start the Goat Control Programme, mainly because of its significance as being the largest remaining area of forest left in the Whangarei Ecological District.

It also forms a water catchment for the Whau Valley Dam that supplies water to Whangarei City. It covers approximately 2,200 hectares and has a high diversity of vegetation types supporting several threatened plant species.

Pukenui Forest's close proximity to Whangarei City encourages a diverse range of recreational activity for school groups, tramping clubs and for others to enjoy its natural splendour.

Wild goats had been impacting on Pukenui Forest causing damage to threatened plant species and creating concern on the impacts they have on the catchments that supply water to Whau Valley Dam. Wild goats were also creating problems with local residents by damaging gardens, fruit trees and flower beds.

Mt. Tiger was chosen because of damage wild goats were causing to reserves, lifestyle properties, exotic forests and farmland. The area to be treated encompassed some 10,000 hectares.

The Northland Regional Council staff had been involved with the control of wild goats on their land and also adjoining properties. Hunting permits were issued to private hunters by Department staff to shoot goats on conservation land and contract hunters were hired by forestry groups to keep goat numbers to low levels within pine forests.

With parties trying to control goats in such an ad hoc way, goat numbers were slowly increasing. The solution to the problem was to duplicate the same style of control methods that were undertaken in Pukenui Forest, i.e. to put all wild goats at risk within the area to be treated, regardless of land tenure. Wild goats that were subjected to hunting pressure in Mt. Tiger simply moved to an area that offered less disturbance.

**Action:**

*Reduce herd sizes by 80% + in Pukenui Forest and adjacent reserves/lands, Mount Tiger (Maungatika) and adjacent reserves/lands within 12 months of the plan and target remaining priority reserves and lands by year five.*

**Results:**

The initial knockdown of goats in Pukenui Forest in 2009 netted a total of 228, follow up maintenance in 2010 netted 74, and in 2011, 41 goats were shot – a total of 343 to date. The knockdown phase in Mt. Tiger has netted a total of 503 goats shot.

**Comment:**

In 2011-2012 the Goat Control Programme will continue from Glenbervie Forest through to Mimiwhangata Farm Park with maintenance control occurring in Pukenui Forest and Mt. Tiger.

**Action:**

*Design and maintain a database of all day to day hunting activities, costs performance and progress.*

**Results:**

The use of GPS (Global Positioning System) and computer technology has created many advantages in monitoring and recording data of field operations that past wild animal control programmes never had.

It is a requirement for the contract hunters involved in the Goat Programme to carry GPS units to record daily hunting activities.

The GPS units are activated at the beginning of a hunt to record hunters' movements (Track Log) and the number of animals the hunter dispatches. The information is downloaded to a computer database which records the hunter's name, the duration of the hunt, the number of animals dispatched, the sex of each animal killed and if a dog was used in the operation. Post operation surveys are undertaken by those in charge to gauge progress and make recommendations should the need arise.

**Comment:**

A video DVD is enclosed with this report depicting kill sites, track logs of each individual hunter and pre-current vegetation photos which have occurred in Pukenui Forest. It also has kill sites, track logs, etc, for the current Mt. Tiger operation.

**Action:**

*Develop effective hunting techniques and procedures to ensure rapid removal of targeted herds.*

**Results:**

A team of 3 hunters have been used at the initial start of the Programme. 2 are from the Northland Deer Response Team and the other was contracted as a goat hunter since the Programme's inception. 1 other hunter has recently been contracted to be part of the team for the Glenbervie-Mimiwhangata phase.

All are very experienced hunters and the Programme is grateful to be able to source such professionals, as hunters of this calibre are very hard to find.

The use of indicator, rather than find/bark dogs have proven to be the best option for this type of knock down operation and in built up residential areas. Indicator dogs lead the hunter to undisturbed groups of goats ensuring effective multiple kills for the hunter. Find/bark dogs tend to bail individual goats leaving the remaining goats to scatter. The find/bark dogs value is in locating low density populations and in denser vegetation when forests have started regenerating and will be deployed during maintenance work in future at appropriate sites..

Suppressed semi-automatic rifles with high capacity magazines (20 rounds +) are the preferred weapon proving vastly superior to bolt action rifles that are only capable of holding 5 rounds. Semi-automatic rifles are especially effective when large mobs of goats are encountered. Garmin 60csxGPS systems are used by the hunters to plot their movements and kills which are then downloaded on to a computerised mapping system. A spreadsheet is also set up to record all relevant information.

To achieve an 80% knockdown, all wild goats in the respective areas were subjected to intensive hunting pressure. Targeting known resting areas during the day, breeding sites during the rut, and feeding areas at first and last light has been a deliberate focus. Remaining flexible with techniques has been one of the teams' strong points along with building and maintaining a good rapport with landowners.



## **4 Objective 2**

### **Ensure that wild goats inhabiting priority sites are maintained at low density or are eradicated.**

#### **Action:**

*Refine and implement effective hunting techniques to ensure a rapid removal of goat populations within these priority areas before they rebuild and thereby sustaining low density.*

#### **Results**

The combined use of indicator dogs, semi-automatic rifles and the team's extensive knowledge and experience has enabled a rapid reduction of goat numbers in both areas.

#### **Action:**

*Design and complete a database of day to day hunting activities, access points and adjacent landowners to reserves and forests requiring removal of goat populations within the first two months of the programme and complete details of prioritising other sites by end of year one.*

#### **Results**

GPS units carried by the hunters to track progress has ensured that no area within the treatment blocks escaped inspection (see video supplied for ground coverage). Targeting of goats during periods that offer advantages to the hunters of multiple kills, i.e. during the mating period or when the females are heavily pregnant, or periods of fresh regrowth (Spring) has proven to have a positive outcome in terms of rapid reductions in goat numbers from both sites and so far suggests maintenance is successful in Pukenui.

#### **Action:**

*Year 4 Review database information and determine areas identified for eradication and areas destined for ongoing management at low density. Also determine success of programme to date and provide strategic advice for future direction of the programme.*

#### **Results**

As it is still relatively early in the programme and only one site Pukenui is into maintenance, the data on sustainability of maintaining low density is not available. Kill tallies and anecdotal evidence is so far looking promising.

## 5 Objective 3

### **Raise awareness of wild goat issues in the Whangarei District.**

**Action:**

*Maintain a positive relationship with key parties – landowners, forestry companies and members of the public.*

**Results:**

The key to the success of this Programme has been the personal contact with farmers, forestry companies, owners of lifestyle blocks, other landowners and interested parties by the hunters. Members of the team had personal contact with 25 property owners that lived adjacent to Pukenui Forest and over 90 landowners in Mt. Tiger.

The team's ability to respond to calls from landowners that have sighted goats on their properties and to have the goats removed by the team within hours of being notified, has developed greater landowner confidence in the Programme.

**Comment:**

Much of the one on one work with landowners and staff from other agencies, relies on the team's high integrity and public relation skills. The team has a keen awareness of the importance of these skills and is dedicated to providing a customer service second to none.

The way in which the Programme is organised and promoted is critical to its ongoing success.

**Action:**

*Provide the latest information on the programme (ie results, future direction). The results of the programme will also be detailed in monthly and annual reports for agencies and those interested.*

**Results**

Through Monthly Operating Reviews and general liaison stakeholders have been kept informed of projects progress. A 6monthly update was provided to the Regional Council

## **6 Objective 4:**

### **To ensure new goat populations do not establish outside existing populations.**

Large areas of Northland remain goat free but can potentially become infested by dispersal or new liberations of goats. Within Whangarei Area those sites not already listed in this plan, to our current knowledge, are considered goat free.

#### **Action:**

*Identify and confirm the reserves, forests and lands where wild goats are considered to be absent, and where obvious invasion sources such as goat farms adjoining forested areas do not exist.*

#### **Result**

Survey and liaison work conducted with landowners has confirmed goat infestation extents in the district are as was estimated. No new or other herds have been reported

#### **Action:**

*Maintain active and opportunistic surveillance systems for these sites on a 5-yearly basis. Respond immediately to reports of goats appearing in these habitats that have historically been free of goats. Eradication being the target.*

#### **Results:**

A report was received of feral goats turning up in the northern tip of Manaia Ridge in 2010. This was promptly inspected and surveyed with the goats consequently eradicated. No sign of goats has been seen since despite follow up survey work by hunters, Landcare trappers and landowners frequenting the area on a monthly basis, and, an intensive 1080 possum bait station operation having been conducted.

#### **Action:**

*Work with Local Authorities to explore opportunities to further establish Goat exclusions zones in areas of Northland to reduce capability of new populations establishing. For example, Whangarei Heads, via District Council planning provisions, already has such an area established where farming of goats is a controlled activity. This action will also serve as an awareness raising action for Objective 3.*

#### **Result**

This action has not been implemented yet whilst programme is early in development and is only working in Whangarei District as a trial.

## **7 Funding**

The Northland Regional Council provided one-off contributions for both the Pukenui Forest Project and Mt. Tiger respectively. These funds were used for the initial reductions of wild goat populations within both areas.

The Department of Conservation's one-off contributions for both Pukenui and Mt. Tiger respectively, was used for landowner liaison and wild goat surveys within both areas. The Department also provide functions such as:

- Professional expertise
- All computer data, spreadsheets, mapping, record keeping, reporting relevant to the Programme
- All day to day operation aspects, liaison
- Advocacy, communication, auditing contractors
- General administration.

The Whangarei District Council and the Pukenui Western Hills Charitable Trust's contributions are for follow-up maintenance for goat control in Pukenui.

The Owhiwa Landcare and Whareora Landcare groups were successful in their application to the Department of Conservation's Biodiversity Condition Fund to finance maintenance control for the Mt. Tiger Project.

The forestry company of Hancock Logging, Pataua Landcare (John Craig) and the Whangarei District Council are also financial contributors to the Mt. Tiger Programme.

## 8 Summary of Expenditure

<b>PUKENUI</b>	
<b>2009</b>	
NRC – Contractors for culling	\$35,000.00
DOC Staff salary, infrastructure costs	\$40,633.00
	<b>\$75,633.00</b>
<b>2010</b>	
WDC – Pukenui Western Hills Charitable Trust	
Contractors for culling	\$ 7,500.00
DOC Staff salary, infrastructure costs	\$ 3,500.00
	<b>\$11,000.00</b>
<b>2011</b>	
WDC – Pukenui Western Hill Charitable Trust	
Contractors for culling	\$7,500.00
DOC Staff salary, infrastructure costs	\$3,500.00
	<b>\$11,000.00</b>
<b>MT TIGER</b>	
<b>2011</b>	
NRC:	
1600 hrs Contractors for culling	\$48,000.00
Field supplies	\$2,000.00
	<b>\$50,000.00</b>
DOC	
600 hrs – Contractors for liaison, survey, etc	\$18,000.00
336 hrs – Staff salary	\$10,080.00
Vehicle hire, running	\$2,500.00
Professional fees	\$850.00
Computer hire, phones, etc	\$1620.00
	<b>\$33,050.00</b>
	<b>\$83,050.00</b>

## 9 Summary

The Whangarei District Goat Programme has achieved an important milestone given that this programme is possibly the first inter agency Goat Control initiative to occur in Northland.

To have a programme that has inter-agency support and is able to combine resources so that all wild goats are put at risk regardless of land tenure surely has to be a plus for all concerned.

Some positive benefits are:

1. Very little or no risk of reinvasion of wild goats occurs in the areas treated.
2. All wild goats are put at risk regardless of land tenure.
3. Resources and expertise are combined, creating a more effective programme.
4. Agencies, forestry companies, landcare groups, landowners and communities benefit from positive outcomes that programmes such as this have to offer.
5. Members of public, landowners etc have a common and consistent message and management approach to relate to.

One of the most important policies of the programme has been maintaining the professionalism of those engaged in the shooting of wild goats. The goat hunting team is at the forefront of this, liaising with landowners, agencies and forestry companies, gaining access to properties, troubleshooting and responding to callouts.

Without the team's dedication and willingness to provide a professional service to meet the objectives set out in this report, the success of this programme would be in doubt.