

New Zealand Bats

An Overview



Introduction

Bats are New Zealand's only native land mammals. The three species; the New Zealand long-tailed bat, the lesser short-tailed bat and the greater short-tailed bat are all endemic (found only in New Zealand). They are cryptic, nocturnal and require specialist skills and equipment to detect. This makes them easy to forget about as generally people don't see them and many New Zealanders don't even realise that we have bats.

Long and short-tailed bats were once common and regularly seen by the early European settlers but the introduction of predators; rats, stoats, cats, possums as well as loss of habitat has had a devastating effect. The greater short-tailed bat is probably now extinct although there is some hope it remains on an island off Stewart Island.

Lesser Short-tailed Bat (*Mystacina tuberculata*)

The lesser short-tailed bat is considered to have colonised New Zealand sometime after our separation from Gondwanaland but very possibly as long ago as 20-25 million years. They are now the only example remaining in that family of bats in the world.

3 Sub-species Northern, Central and Southern

Threat Classification Northern – Threatened-Nationally Vulnerable
Central – At Risk-Declining
Southern – At Risk-Recovering

Weight 12-15 grams

Wingspan 25-30 cm

Ears Large and pointed

Tail Short

Fur Mousy grey
Prey Nectar, fruit, ground and aerial insects

Tail Short

Fur Mousy grey
Prey Nectar, fruit, ground insects

Habitat Old growth native forest

Roosts Cavities in native trees

Active Emerge after dark

Importantly the short-tailed bats are also known as the major pollinator of several important native plants including the rare and endangered *Dactylanthus taylorii* also known as the Woodrose.

Short-tailed bats live in sizable colonies (sometimes greater than 1000) and need large areas of old growth native forest but have been found in exotic pine plantations in the central North Island. The isolated populations that remain today are now found mainly on Public Conservation Land including two predator free islands (Te Hauturu-o-Toi/Little Barrier and Whenua Hou/Codfish Islands) and as such have protection from their major threats.

New Zealand Long-tailed Bat (*Chalinolobus tuberculatus*)

The long-tailed bat is a far more recent self-introduced species and is thought to have been in New Zealand for only approximately 1 million years

1 Species New Zealand long-tailed

Threat Classification Threatened-Nationally Critical

Weight 8-11 grams

Wingspan 24-30 cm

Ears Small, broad and rounded

Tail Long with membrane

Fur	Chestnut brown
Prey	Insects on the wing
Habitat	Forest incl exotic pines
Roosts	Tree hollows/cavities, and caves
Active	Emerge around sunset

Important factors to consider when developing policies and plans for the protection of long-tailed bats:

Long-tailed bats are insectivores feeding on moths, beetles and mosquitoes and can be important in controlling insect outbreaks, hence they could be important for the economy.

The long-tailed bat however lives in much smaller social groups (20-100 bats) and can survive in fragmented landscapes in native and non-native forests.

Long-tailed bats are found on a mixture of public and private land and have even been found in Auckland and Hamilton cities. Therefore, management of the species is complicated and challenging.

Long-tailed bats can be very long lived (>20 years) which means that you may think that you have a viable population of bats but if you don't know the demographics (i.e. the age and sex-ratio) they can suddenly disappear if it is an aged population or has a skewed sex ratio.

They are slow breeding. The breeding season is November to March and they have one pup a year, so they are slow to recover from population declines

Long-tailed bats have very large home range requirements (110km²) and individuals can fly up to 35 km in a night. Any predator control therefore needs to be landscape wide and cover the roosting and foraging areas.

Adult female bats congregate in maternity colonies every year to have their young. They choose specific trees to

roost generally because they are well insulated and will protect the young when the mothers are out feeding every night. They usually avoid roosting under bark and in caves and buildings. This means that tree removal can potentially take out a whole colony.

They move roosts almost every night, so each colony needs a lot of suitable trees. The trees are not selected randomly – in the Eglinton valley only 1.3% of the cavities had the optimum characteristics for breeding. They tend to select the largest and oldest trees in the landscape. This means that the availability of suitable trees is limited. They will not just move to another random tree if disturbed.

Use of sub-optimal roosts leads to reduced breeding success. It is therefore very important to conserve traditional roost sites and reducing the number of roosts is likely to have negative impacts on population viability.

Identifying roost areas is the key to understanding how to manage colonies. Collecting this information takes time – finding maternity roosts is difficult. You must catch a sample of adult females, attach transmitters and then follow the bats to the maternity roosts. If a development project does not know where the maternity roosts are then even the smallest development project can have a devastating effect on colonies and cause local extinction.

Removal of trees can include loss of critically important breeding trees (whether occupied or not at the time of felling), killing or injuring individual bats while felling trees, disturbance of bats and loss of feeding habitat.

Long-tailed bats cannot be translocated at present. Long-tailed bats have a strong homing ability, so translocations are likely to be unsuccessful. It is therefore better to manage current populations while we can.

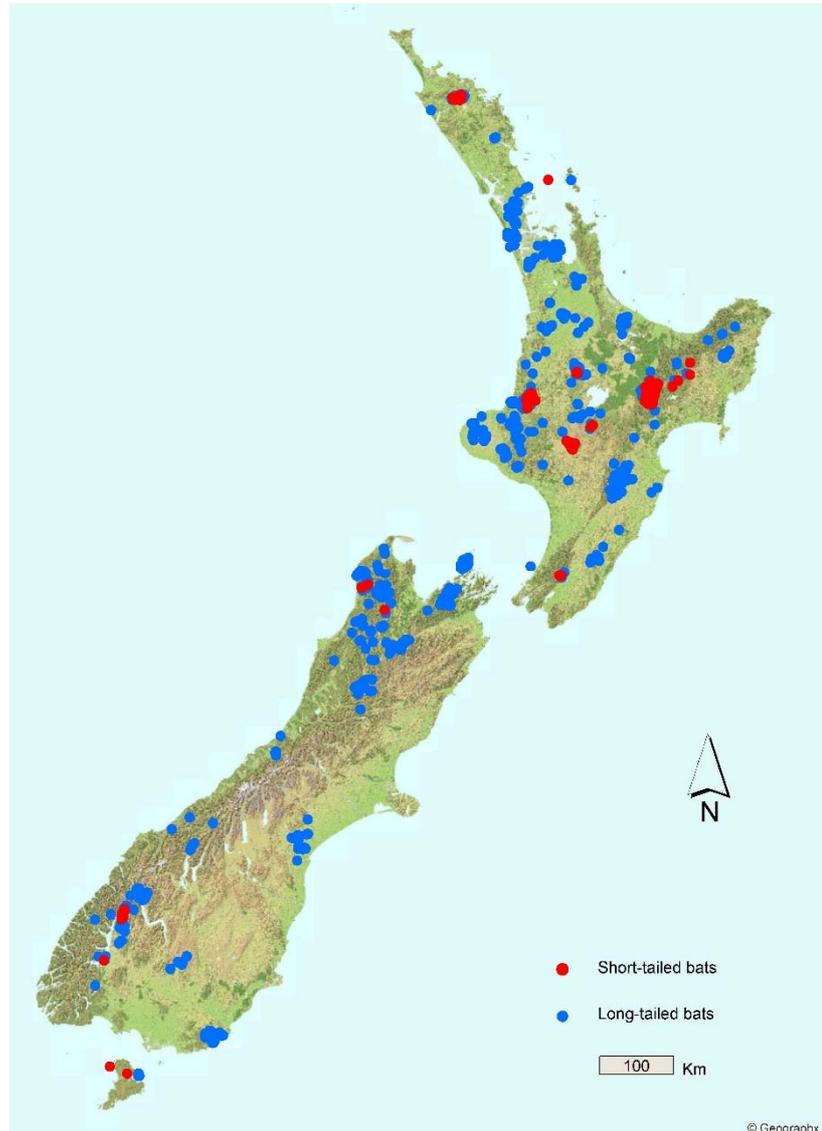
Known Presence of Bats in New Zealand

The Department of Conservation maintains the National Bat Database that records the current known presence of bats in New Zealand.

To ascertain if bats are known to be present in any specific area, contact in the first instance should be made with your nearest office of Department of Conservation:

www.doc.govt.nz/footer-links/contact-us/office-by-name/

Disclaimer – Information displayed on the map is based on results from bat surveys and research from 2008-2018. The absence of bats in any specific area may just mean that surveys have not been done since 2008 or that DOC do not have access to the data.



Additional Resources and Information

Bats and Roding/Motorways – The New Zealand Transport Authority has had a report prepared titled ‘Effects of land transport activities on New Zealand’s endemic bat populations: reviews of ecological and regulatory literature’ a copy can be downloaded from:

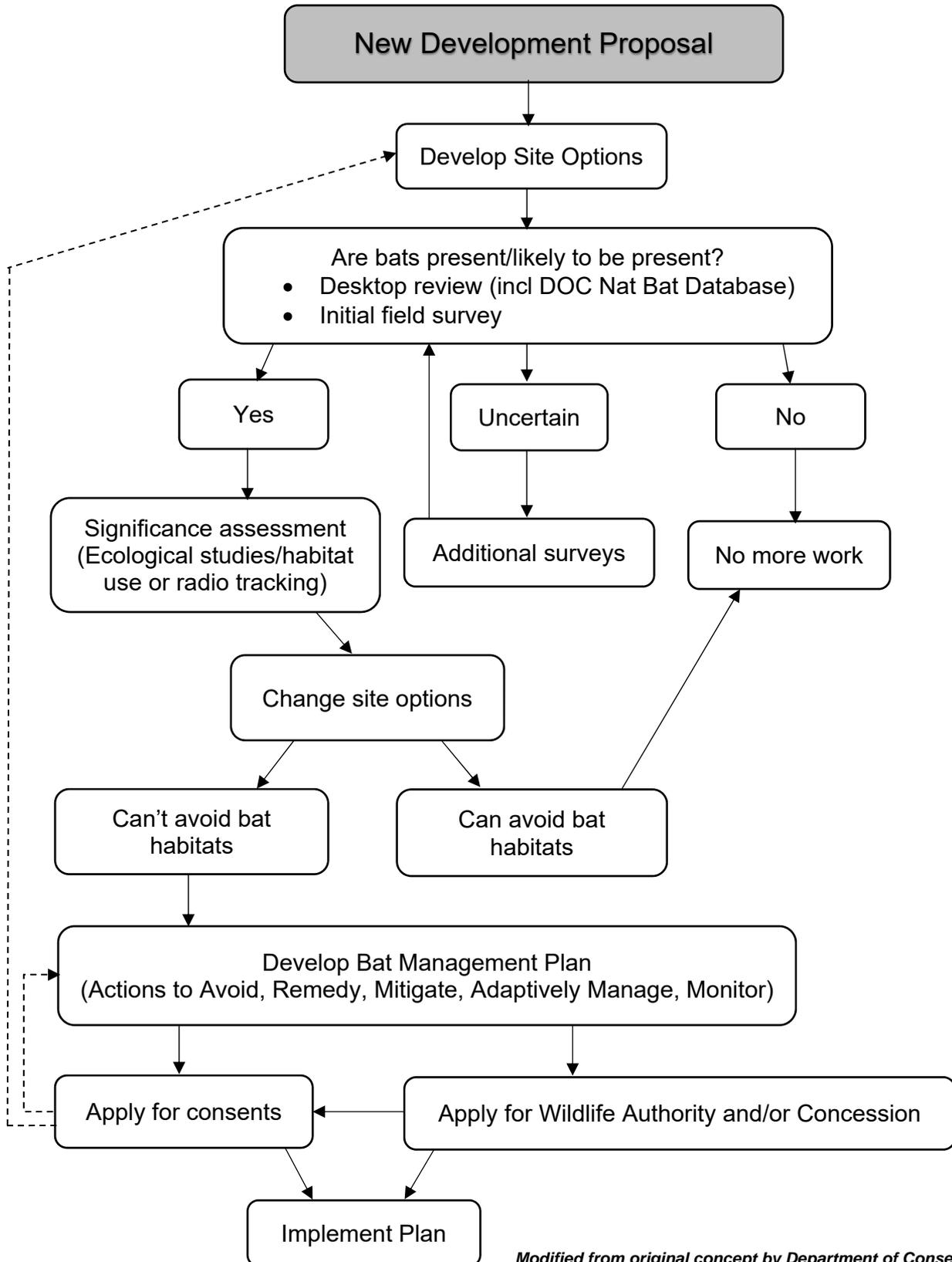
www.nzta.govt.nz/resources/?category=60&subcategory=103&audience=&term=623

Bats in Exotic Plantation Forest – The New Zealand Forest Owners Association has had guidelines prepared titled ‘Bats in New Zealand Plantations: Forest Management Guidelines’ and a copy (together with other guidelines) can be downloaded from: <http://rarespecies.nzfoa.org.nz/resources/guidelines/>

Planner’s Consideration of Bats – to assist those involved with planning new developments a ‘Work Flow Chart for Considerations of NZ Bats’ has been prepared and is shown below

For further information or advice contact can also be made with the NZ Bat Conservation Network at: www.nzbats.org.nz

Work Flow Chart for Consideration of New Zealand Bats



Modified from original concept by Department of Conservation