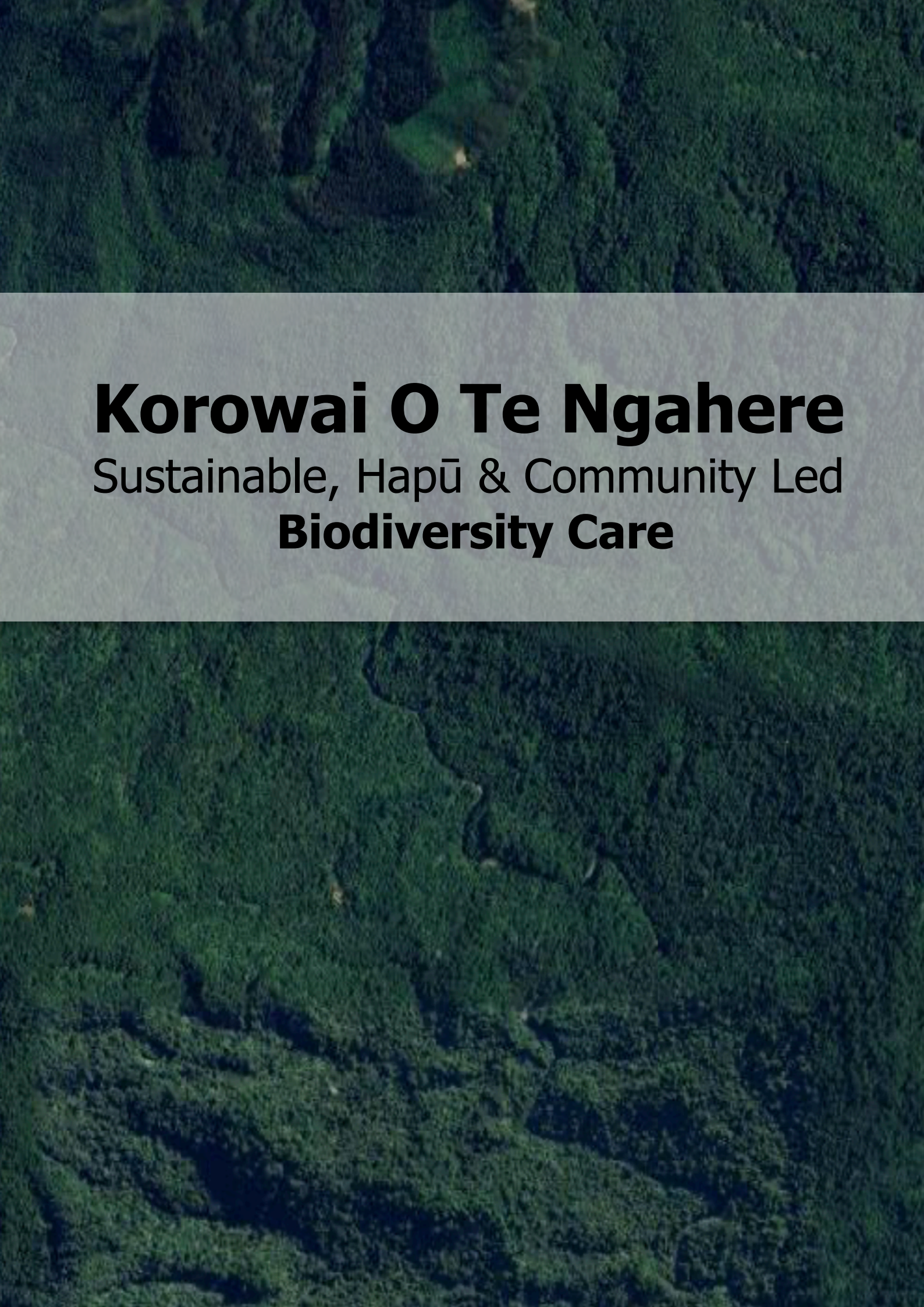




Korowai O Te Ngahere

Sustainable, Hapū & Community Led
Biodiversity Care



The Vision

The purpose of this initiative is to restore and protect New Zealand's biodiversity in a way that respects the land, the water and all our taonga species, including people. It takes a holistic approach towards forest ecosystems and considers relationships between all flora and fauna important. This means working with methods that do not compromise the environment with unintended consequences, and in a way that allows communities to find their place and thrive within an integrated holistic framework.

*Weaving together
biodiversity care,
community and
natural resources
as common threads
in the same tapestry.*



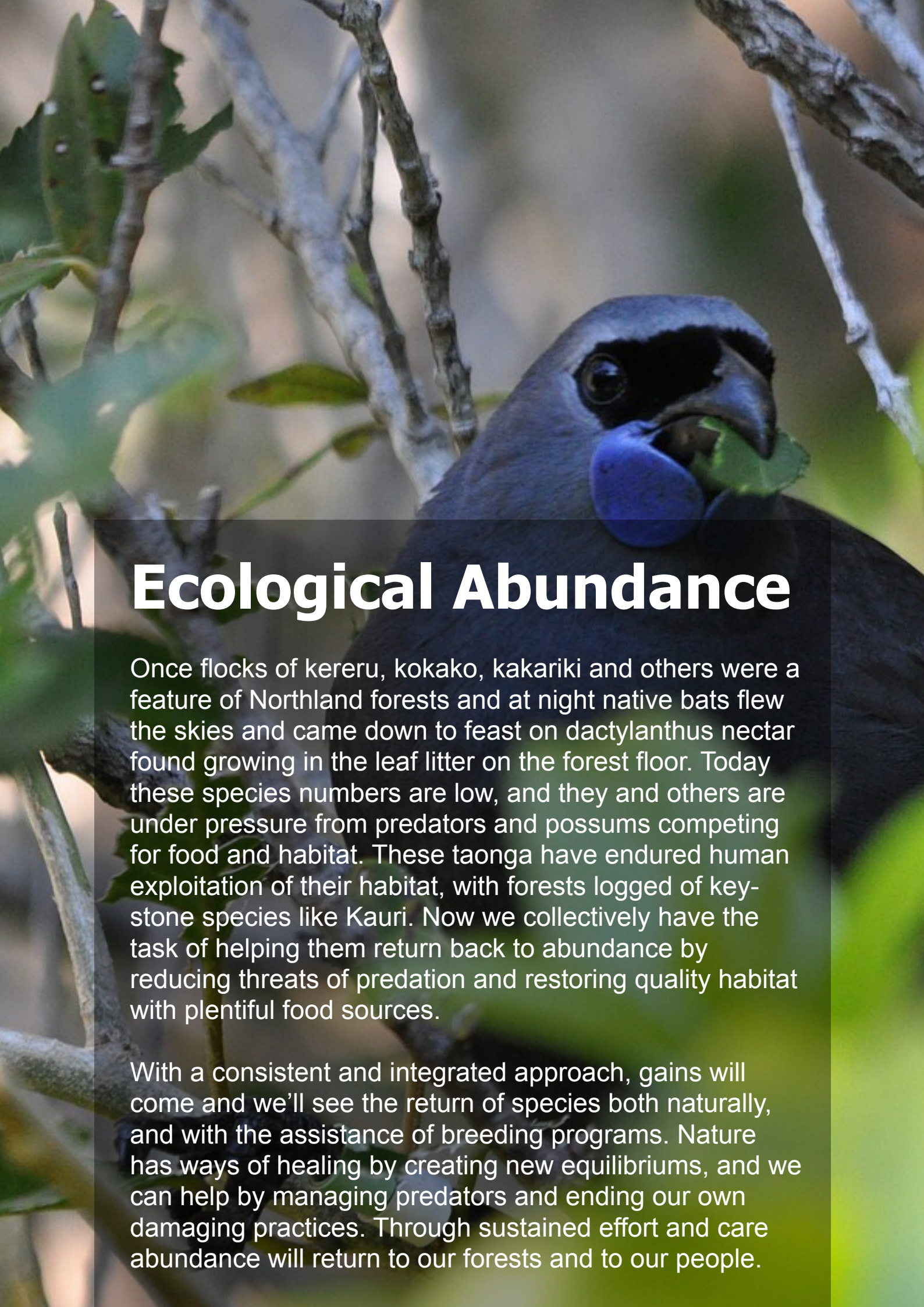
Biodiversity Mahi

Sensitive ecological areas need continuous care with **observation, monitoring, data collection and predator control**. Through developing *comprehensive and sustainable biodiversity plans based on matauranga Maori, traditional and local knowledge and science; and by using humane methods carried out by experienced professionals*, we can ensure plant and wildlife in our forests and other landscapes have the best chance to thrive, and that the integrity of water, soil and total ecological health are maintained.

Working to such a plan with a consistent approach will aid in the development of whole systems knowledge and best practice. Predator control, that includes resource recovery where possible, can help fund this critical work and create a *culture based on true Kaitiakitanga*. These skills can then be passed to the next generations.

***Meaningful
Sustainable
Jobs for
Papatūānuku***





Ecological Abundance

Once flocks of kereru, kokako, kakariki and others were a feature of Northland forests and at night native bats flew the skies and came down to feast on dactylanthus nectar found growing in the leaf litter on the forest floor. Today these species numbers are low, and they and others are under pressure from predators and possums competing for food and habitat. These taonga have endured human exploitation of their habitat, with forests logged of key-stone species like Kauri. Now we collectively have the task of helping them return back to abundance by reducing threats of predation and restoring quality habitat with plentiful food sources.

With a consistent and integrated approach, gains will come and we'll see the return of species both naturally, and with the assistance of breeding programs. Nature has ways of healing by creating new equilibriums, and we can help by managing predators and ending our own damaging practices. Through sustained effort and care abundance will return to our forests and to our people.



Humane, Non Residual Animal Control

It's important that we take a humane approach to managing wildlife no matter how much of a 'pest' they may seem. We need respectful management where no residual toxins, pollutants or rubbish are left in the environment to harm us or other wildlife.

The most humane methods are quick, clean and respect the value of the animals' life, allowing for recovery of meat and fur, or their return to the land where they can break down to feed other lifeforms in the food chain including native species.

*Respecting the circle
of life keeps us
humble, in tune with
nature and benefits
the whole system.*



Secondary and Sublethal Poisoning ...in the Food Chain

Poisons used in Conservation are making their way through the food chain and having negative impacts on non-target species, including vulnerable native species that we are trying to protect. We don't know the true long term impact poisons are having on the environment or the genetics of the people and wildlife exposed to them. The use of toxins puts people who harvest rongoā, meat and fur at risk, and prevents others from engaging in conservation work. In the realm of food safety and ethics, the Precautionary Principle as a guiding norm states ***“if a product, an action or a policy has a suspected risk of causing harm to the public or to the environment, protective action should be supported before there is complete scientific proof of a risk.”*** (Olsen and Motarjemi, 2014). (1)

In a 2012 study 73% of Hawks tested had anticoagulant residues in their livers. 52% had Brodifacoum and many had multiple anticoagulants.
- Landcare Research Study (2)

Over 37% of dead kiwi found tested positive for anti-coagulant poison, 30% of those were contaminated with Brodifacoum. - Doc Pesticide Data (3)

Brodifacoum is an anticoagulant poison that kills by thinning the blood and causing internal haemorrhaging. It is a chain poison that's available over the counter to consumers and is used extensively in pest control.

Ground Control

Many of our vulnerable species have an excellent chance of thriving with properly managed ground control of rats, possums, stoats, wild cats etc. Trapping, observation, monitoring and capturing of reliable data on populations, health, ecological and other issues etc. is best carried out by real people working on the ground who have specialised knowledge of the environment and species living there. Real people working on the ground develop observational skill sets over time spent in forest environments. They become highly valuable assets for managing healthy ecosystems. Their creative problem solving skills cannot be replicated by aerial operations, irregular trapping or baiting programs, where genuine data is lost or compromised.

Ground control allows resource recovery and accurate data collection, helping to reduce costs & give genuine insights into ecological health.



Hapū & Community

The economic and social well being of our communities is intricately connected with the health of our environment. Tangata Whenua and rural communities rely on their surroundings for sustenance and livelihoods. Instead of continuing to put pressure on scarce resources and growth in unsustainable areas, we should be adapting to utilise what is available to us in abundance at this time.

There are many opportunities for livelihoods that protect and enhance biodiversity, within a wider framework that restores our environment now and into the future. Supporting people into such mahi is critical for our taiao.

Social Enterprise

Biodiversity management can provide valuable resources whilst ensuring steady progress towards fully functional forests. Social enterprises based on value added products made with abundant resources can develop in these areas:

- Pet Food Products
- Tannery for Skin and Hide Processing
- Leather and Textile Processing
- Biodiversity Based Tourism
- Rongoā and Carving

Social enterprises are businesses that focus their work on social and environmental good.

Biodiversity Restoration Seasonal Training

Biodiversity mahi can be taught at seasonal training programs to rangatahi, where they can experience and connect with the ngahere. Through this they can develop their knowledge in and of the natural world, as well as their mental, physical and spiritual resilience.

Valuable skills in mātauranga Māori, orienteering, monitoring, data collection and predator control as well as processing meat, harvesting fur, bushcraft and other important life skills can be taught. Students with a serious interest could then have a pathway towards apprenticeships and possible work in these areas:

- **Biodiversity Mahi** (*Trap, Harvest, Monitor*)
- **Pet Food Processing** (*Meat, Value Added*)
- **Tanning** (*Skins, Leather, Value Added*)
- **Textiles** (*Fibre, Yarns, Garments, Value Added*)
- **Biodiversity Tourism** (*Domestic and International*)
- **Traditional Rongoā and Carving**

*Connection with the natural
world improves our young
people's mental and
spiritual well being, and
develops their inner and
outer resilience.*

Economic Return

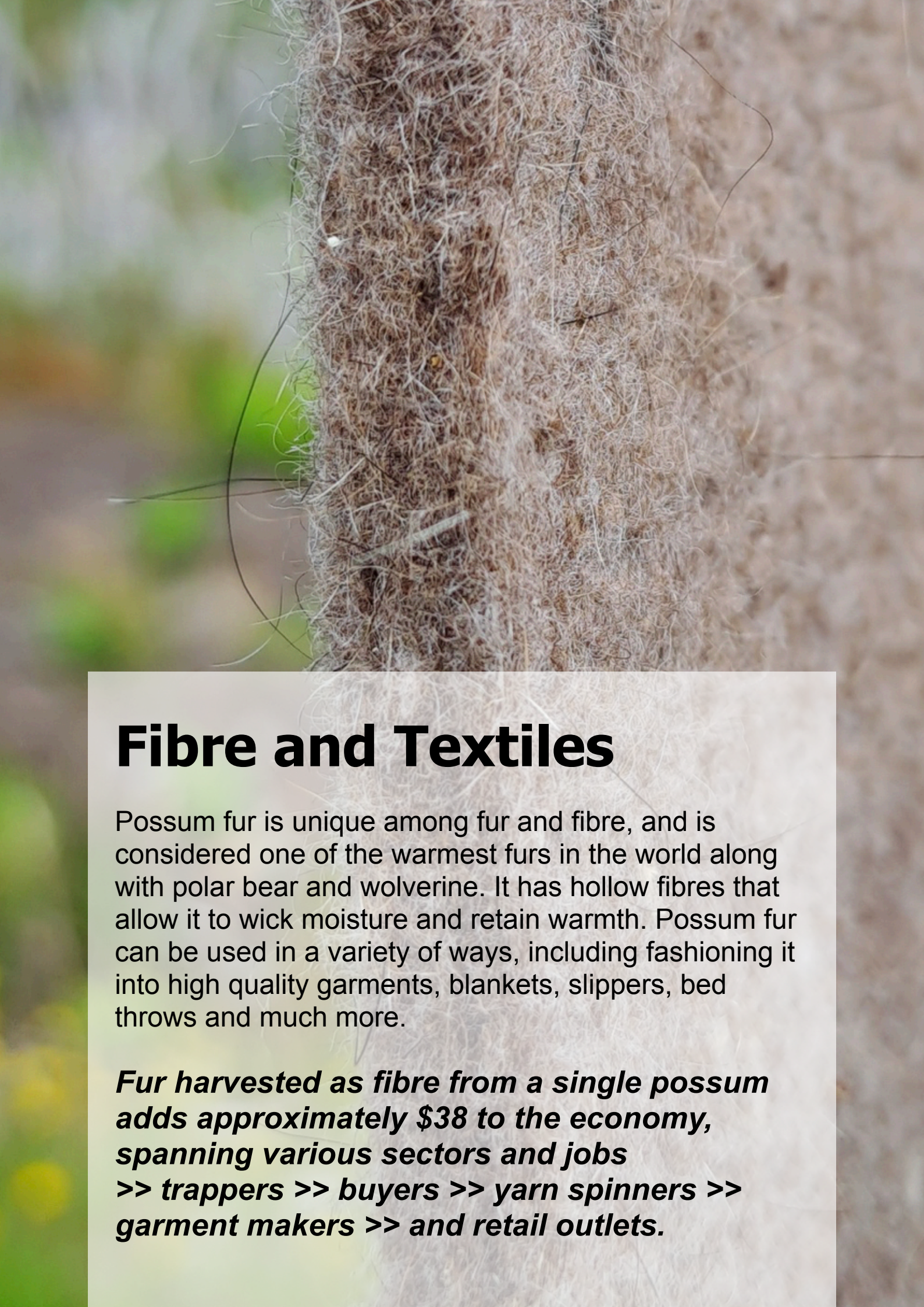
The Possum Economy can help to pay for biodiversity work

Independent economic analysis found that possum fur contributes around \$130 million annually to the New Zealand economy. (4) It's a growing sector with huge potential to contribute to biodiversity restoration.

If the value of the possum was utilised, it could significantly help to reduce the cost of biodiversity work that protects forest life, provides meaningful employment and contributes to the creation of quality, sustainable products, unique to Aotearoa.

Fur from a single possum adds approximately \$38 to the economy from harvest, yarn and production through to the sale of quality garments. Possum meat also sells as premium pet food and dried possum treat products fetch top price nationally and internationally.

There are opportunities for international trade in Australasia, Europe, China and North America for fur and skins, and these can be developed as significant future markets for our unique possum resources. We want to harness these opportunities for the betterment of our taiao and New Zealand communities.



Fibre and Textiles

Possum fur is unique among fur and fibre, and is considered one of the warmest furs in the world along with polar bear and wolverine. It has hollow fibres that allow it to wick moisture and retain warmth. Possum fur can be used in a variety of ways, including fashioning it into high quality garments, blankets, slippers, bed throws and much more.

Fur harvested as fibre from a single possum adds approximately \$38 to the economy, spanning various sectors and jobs >> trappers >> buyers >> yarn spinners >> garment makers >> and retail outlets.

Pet Food Products

Possums present a unique resource that could give back to the taiao & help to restore vulnerable native biodiversity.

Possum meat sells as premium pet food retailing for up to \$10-19 kg. Value added pet food treat products are also sold at a top price and are in high demand nationally and internationally. Dried tails currently retail as dog treats for \$3 - \$5 per tail. This alone shows the value of this high quality, abundant food source and its ability to subsidise biodiversity mahi and create jobs if well marketed and managed.

The local market for dog and cat food is continually growing, as is the global demand for New Zealand made pet food and treats. The “story” of possum pet food is compelling and it allows consumers to support critical biodiversity work through choosing possum meat.

The New Zealand retail pet food market value is forecast to grow reaching NZ \$720 million by 2026 (MPI). ⁽⁵⁾

Local Tannery

Establishing a local tannery in Kaikohe that uses sustainable, natural methods of processing would be a notable asset to the Northland region. Services to tan a variety of hides alongside a large number of possum pelts can be offered and a leather/skin workshop to develop craftsmanship of high value quality leather/skin products. This can bring productivity and meaningful work to people in Kaikohe and the surrounding towns.

Leather and fur constitute some of the most durable, beautiful, quality materials and can be used for a vast range of goods. If well cared for they can last more than a lifetime!

Unlike modern synthetic materials, leather and fur are 100% biodegradable and can return naturally to the environment.

Alternative Models

The current pest control model largely relies on the “free” labour of taxpayer funded community groups who trap and poison, or taxpayer funded controversial commercial aerial poisoning operations. Poison operations can have devastating effects on wildlife and create conflict within communities.

Local professionals along with many hapu, landowners and communities are seeking different models that are holistic, sustainable long term and that integrate the needs of local communities, rather than sidelining them. Social enterprise, cooperatives, local businesses and markets can all benefit from resource recovery and restoration working hand in hand, while reducing the cost of biodiversity work for the tax payer. Social investment in these areas would allow for new models to be established and to flourish, even if they are transitional long-term.

Management of rats and possums on a 500 ha block by a contracted professional using automatic baiting technology, would cost approximate \$34/ha, however with recovery of resources included (fur & meat) this would reduce costs to approximately \$24/ha. (Eco-land Ltd) (6)

The flow on value of these resources in the economy could generate considerable benefit to our taiao, communities and the nation.



Policy Benefits

1st Order Benefits

- Local nature-based jobs for youth, lifting up our tamariki
- Sustained biodiversity gains through to abundance
- Reduce non-target species and reduce risk from toxic exposure to communities & water
- Credible alternative to controversial poison operations
- Deliver beneficial and sustainable local economic, health and environment outcomes
- Support community and hapū led development and resilience

2nd Order Benefits

- Use natural resources, reducing synthetic materials
- Support Trans-Tasman relationships with indigenous tribes
- Develop international markets for our unique natural resources

3rd Order Benefits

- Democratised engagement in environmental work and reduce the cost to central and local government
- Cultural/Political shift in how we manage biodiversity

Imagine this in Northland

Creating opportunities for our communities and our children...

A Cultural Biodiversity Training Program in the ngahere, where young people can learn matauranga Maori, traditional bushcraft skills, trapping, harvesting skins, fur and meat, as well as monitoring and observation.

A Pet Food Factory in Kaikohe where possums and other game are processed into high quality raw pet food and high value dried treats. Where young people can come to learn butchery based processing skills, curing and preparing quality products through a working apprenticeship.

A Tannery for Skins where possum skins and other hides are tanned and prepared for sale, and green skins are collected and sent to international markets. Fur for fibre can be prepared for sale to spinners, garment makers and filters.

A Fibre and Textile Workshop where garments, hats, scarves, yarn and more are produced and sold; and supply of possum-merino sliver to the international spinner market. A leather workshop could also be established to use the supply of skins from the tannery for high end value added products.

These are systems whereby we can all contribute to creating a protective korowai around our forests.



Sustainable Biodiversity Management

Protecting native ecology through non-toxic ground control.



Resource Recovery

Adapting to use abundant precious natural resources we have access to.



Local Economy

Increasing money, skill and resilience into the local economy from social investment.



Community Resilience

Training, careers, connecting people to the land and sustainable resources.





What we need...

- 1. Funding to Establish Social Enterprise Based Biodiversity Jobs and Apprenticeships.**
 - 2. Sustainable Biodiversity Training Programs**
 - 3. A Pet Food Factory and Natural Tannery in Kaikohe**
 - 4. A Regional Incentive Based Bounty System**
-

There are people ready to go!

There are professional trappers, a training program, people with the knowledge, drive and know how to make this happen! We have access to land, we have connections with national and international fur and fibre markets, we have local hapū and communities wanting sustainable change in the way we do conservation... Let's do this...!



**Let's restore
biodiversity and build
resilient communities
together.**



References:

1. Olsen, N. V., & Motarjemi, Y. (2014). Food Safety Assurance Systems: Food Safety and Ethics.
2. Fisher P, Booth LH, Brown LE, Champion M 2012. [Abstract] Anticoagulant rodenticides in New Zealand birds - so what?
3. Department of Conservation Pesticide Data OIA Response (Available on Request)
4. 2014 Independent economic analysis found that possum fur contributes \$130 million annually to the New Zealand economy. NZ Fur Council
5. Page 12. The New Zealand retail pet food market value is forecast to grow reaching NZ \$720 million by 2026 (MPI).
6. EcoLandNZ Ltd.

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<https://thenounproject.com>

**The Korowai O Te Ngahere
discussion document was written for
the future generations of Tai Tokerau,
their tamariki and mokopuna.**

**The Korowai is the cloak of protection
that our communities can place around
our children *and* our environment,
so that we may all thrive.**



This document is the work of
Asha Andersen, Shane Hyde and Matiu Tane.
It has been informed by work and information
provided by many others.